

Доц. д-р ГЕОРГИ ГЕОРГИЕВ

ЮГОЗАПАДЕН УНИВЕРСИТЕТ "НЕОФИТ РИЛСКИ", БЛАГОЕВГРАД

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**ЕВРОПЕЙСКАТА МРЕЖА ОТ ЗАЩИТЕНИ ТЕРИТОРИИ ПАН ПАРКС И РАЗВИТИЕТО
НА ТУРИЗМА**

**PAN PARKS - THE INTERNATIONAL NETWORK OF PROTECTED AREAS AND
TOURISM DEVELOPMENT**

Associate Prof. Dr. GEORGI GEORGIEV

SOUTH WEST UNIVERSITY "NEOFIT RILSKI", BLAGOEVGRAD

PhD Student MARIA TRIFONOVA VASILEVA

SOUTH WEST UNIVERSITY "NEOFIT RILSKI", BLAGOEVGRAD

Abstract: The international and regional programmes constitute a solid basis for collaboration aimed at preservation of biodiversity and protected areas, in regional and global scale alike. Their role for the tourism sector became more important with the adoption of the concept of sustainable tourism together with the concept of development of alternative forms of tourism. PAN Parks – the European network of protected areas is also a good example of such initiatives. It constitutes a network of protected areas, namely national parks, which has the aim to preserve the most valuable species of the European wild nature, spreading from Northern Europe to the Mediterranean. It is a European non-governmental organization, created as an initiative of the World Wildlife Fund (WWF) together with the Holland tourist company Molecaten Group. PAN parks preserves the most valuable wilderness areas on the Old continent through establishment of a network of parks. The latter develop sustainable tourism in collaboration with the local communities.

This paper observes the core points of this initiative, its certification criteria as well as the main characteristics of the existing biodiversity within the PAN Parks areas. An emphasis is placed upon the Bulgarian national parks of Rila and Central Balkan, which are considered as resources for ecotourism development.

Keywords: protected areas, national parks, PAN Parks areas, ecotourism, sustainable tourism

I. Introduction

The international and regional programmes constitute a solid basis for collaboration aimed at preservation of biodiversity and protected areas, in regional and global scale alike. Their role for the tourism sector became more important with the adoption of the concept of sustainable tourism together with the concept of development of alternative forms of tourism. We have to emphasize that in the last decades people have ignored the unique character of the natural heritage of the planet, including the population, living on the Old continent. This

negligence led to a lack of or poor investments, low engagement of institutional resources and not enough dignity of the inherited by the ancestors, that has to be preserved by us for the future generations. Nevertheless, the search for alternative options of mass tourism, each year an increasing number of tourists travel to protected areas of various designation, and the so-called "green" tourism turns in one of the fast-growing sectors of the tourism industry.

Tourism provides unique opportunities to increase the public awareness for the surrounding nature as

well as to popularize eco-friendly messages. A very positive role, in this term, plays PAN Parks – the European network of protected wilderness areas. PAN Parks (Protected Area Network) is a network of protected areas, namely parks, which preserves the most valuable species of the European wild nature, spreading from Northern Europe to the Mediterranean. It is a European non-governmental organization, established in 1997 by the initiative led by the World Wildlife Fund (WWF) with the partnership of the Holland tourist company Molecaten Group. PAN Parks strives to improve the ways of nature protection by the means of sustainable tourism. The organization provides awards and economic benefits for protected areas, which develop naturally, without deteriorating physical exploitation of their resources.

PAN Parks determines high set of standards and criteria for maintenance of protected areas, from conservation and tourism viewpoint. Through development of common communication and marketing platforms, created in collaboration with local communities, PAN Parks aims to increase the public awareness of the statute of the European protected areas as a whole. Furthermore, this organization sets the aim to turn tourism into an instrument for nature protection, instead of being a threat for it. (Kun, 2003).

At the same time the PAN Parks initiative gives recommendations to the European Union, to the governments of the member-states as well as to the bodies, responsible for the maintenance of protected areas. Their recommendations include guidance aimed to improve applied management practices in protected areas, in order for the latter to meet the WWF criteria and be involved in the network of PAN Parks. Furthermore, it is recommended that the European Union should adopt a common understanding of various categories of protected areas, corresponding to the

IUCN classification (1994). Governments of the countries are supposed to work for the improvement of the legislative framework of protected areas, selecting as a priority the conservation and protection of ecosystems, as well as removing any discrepancies between laws. The bodies, in charge of protected areas, have to implement their functional zoning, so that to ensure the presence of all types of natural habitats within the boundaries of a central zone, which is under regime of strict protection. This, in turn, means that the course of all natural processes is ensured without any human interference. Management bodies, maintaining protected areas have to involve the local communities and the private sector in the management of visitor flows within and around protected areas.

It is obvious than PAN Parks preserve one of the most valuable species of wild nature on the Old Continent, which is implemented through a network of parks, developing sustainable tourism in partnership with the local communities. At the current stage this initiative is supported by the following ten countries, including Greece, Italia, Poland, Romania, Sweden, Russia, Estonia, Finland, Portugal and Bulgaria. Bulgaria and Finland are the only two countries represented by two parks each. Preliminary research reveals that out of 2 926 protected areas in Europe (mainly national and nature parks) the aforementioned list of PAN Parks, included only 134 areas, covering 16 000 sq m, situated in the territory of 28 European countries (Kun, 2003).

Gaining a certificate under this international programme means that a national park meets all five basic criteria for membership. They include natural values and preserved wilderness areas; long-term conservation of nature and visitor management; creation of development strategies for sustainable tourism as well as presence of local business partners, possessing PAN Park certificates. Meeting the high standards

is verified through a process of independent expert evaluation measuring the nature quality, the management of protected area and relations between administration and the local communities. These areas, successfully passed the evaluation process, are issued certificates, proving their right to use the trademark and the logo of PAN Parks.

Together with the responsibilities and the tasks, resulting from the obligation of protected areas to meet certain standards and criteria, the membership in this initiative is beneficial for protected areas. Advantages imply an increase in the international recognition by the means of financial support, aimed to facilitate the popularization of the European community of protected areas (involved parks), as well as profits for their partners. Local suppliers of tourist services, craftsmen and others could use the trademark of PAN Parks and be included in its advertising and information network at the same time. The organization provides opportunities for dissemination and acknowledgement of the local culture and traditions offered to international customers and clients. It is necessary to point out, that **the European Commission defines the PAN Parks activities as one of the best initiatives aimed at development and management of sustainable tourism, implemented in the areas under NATURA 2000.**

The areas, enlisted in PAN Parks until today constitute a unique complex of natural sites, characterized by splendid flora and fauna, natural habitats and rich cultural and historical heritage in their peripheral areas. The initiative includes the following areas:

1) Borjomi – Kharagauli is a national park, situated in Central Greece, representing an integral part of Malak Kavkaz. It comprises 85 000 ha natural forests, sub-alpine and alpine meadows, rare and endangered animal and plant species. The villages and towns, situated in the park peripheral areas possess rich heritage. In proximity to the national park is

located the town of Borjomi (14 445 inhabitants), famous for its mineral water and numerous cultural and historical landmarks.

2) Archipelago National Park is located in the outer archipelago, at the southern most point of the southwestern archipelago of Finland. It comprises 2000 rock islands, covering an area of 50 219 ha, out of which 10 600 ha wilderness (21 %). It is proclaimed a biosphere reserve and is visited by 57 000 tourists annually.

3) Fulufjället is located in the center of the Scandinavian peninsula, on the territory of Sweden, in the northwestern part of Dalarna, on the boundary with Norway. It encompasses the southern part of Scandinavian mountains. It is proclaimed in 1973 a nature reserve. However, on 24th of February with a Parliament's decision of Sweden it is redesignated a national park. It covers 38 414 ha, out of which 22 140 ha (60 %) are wilderness areas.

4) Oulanka National Park encompasses unique nature areas in the region of Northern Ostrobothnia and Lapland in Finland. It borders by Paanajarvi National Park in Russia. It was proclaimed in 1956, and soon afterwards in 1982 and in 1989 it enlarged its territory, in order to reach the current area of 27 000 ha. It preserves vast massives of pine-trees, river valleys with sandy river-banks. It is also characterized by rich fauna of mammals, including large populations of northern deer.

5) Paanajarvi National Park is located in the northwestern area of Karelia, within the area of Russia, not away from the Finnish border. It comprises 104 371 ha. Today, the Finland part of Oulanka and the Russian National Park of Paanajarvi play an important role for the social and economic life in the region. Priorities for the near future include optimization in usage and sustaining ecological and socio-economic stability by development of entertaining and ecological tourism. The park was officially proclaimed in 1992 with the aim to preserve nature, especially the large massives of virgin forests of *Picea abies* and many other endangered plant and animal species,

including the fish populations in the lake, named after the park.

6) Majella National Park was proclaimed in 1995. It was the first park, obtained a PAN Park certificate. It is situated in the region of Abruzzo, Central Italy. The park is a unique example of "mountain desert", located in the heart of the mountain. Its gorgeous canyons and thick beech forests create excellent conditions for easy walking tours. The park is situated in the provinces of Chieti, Pescara and L'Aquila, in the region of Majella massive, where is the highest mount of Charni Amaro (2793m). There are lots of hiking tracks, covering an area of over 500 km. One of the deepest caves on the European continent can also be found there together with numerous cultural and historical landmarks. Its overall territory comes to 628 380 ha.

7) Peneda – Gerês National Park is located in the northwestern Portugal, on the border with Spain. It comprises 69 776 ha, including 5000 ha (7 %) wilderness areas. It is characterized by unique nature and lots of representatives of the cultural and historical heritage. The fauna is very diverse. The park is visited by 250 000 tourists annually.

8) Retezat National Park is situated in the region of the mountain with the same name, in the district of Hunedoara, Romania. It comprises 38 100 ha. Within its territory there are over 60 mounts, located over 2300 meters each. It was proclaimed national park in 1935. It was the first park, officially proclaimed in a country, neighboring Bulgaria. There are over 1900 plant species on its territory and very diverse mammal fauna. Since 1979 this protected area has a statute of a biosphere reserve.

9) Soomaa (Marsh land) is a National Park, situated in the southwestern part of Estonia, on the territory of Vilyandi district. It comprises 39 000 ha and was officially proclaimed in 1993. Larger parts of this area include big lakes, separated from one another by the rivers, forming the basin of Parnu river.

As we mentioned above, **Bulgaria is represented by two national parks in this international initiative. These are Central Balkan and Rila National Parks.**

Central Balkan National Park (71 669,5 ha) was proclaimed on 15th of October 1999. For the period from 1991 to 1999 it was used as national park in conformity with the former law on protection of nature. The park encompasses areas of five districts – Lovech, Gabrovo, Sofia, Plovdiv and Stara Zagora, eight municipalities and 32 city councils. It was divided into seven park regions, covering the following reserves – Boatine, Tsarichina, Koziata stena, Steneto, Dzendema, Severen Dzendem, Peeshtite skali, Stara reka and Sokolna with an area of 20 019,6 ha. It was proclaimed an important bird area and was included in the EU programme CORINE Biotopes. It was also included in the European network of protected areas – PAN Parks.

This national park is located from 500 to 2376 meters above the sea level, which is a prerequisite for great climatic, biotic and ciotic diversity, the existence of well-developed sub-alpine and alpine belts in the Kalofer mountain. The national park encompasses the highest areas of Central Stara mountain, including Zlatishko-Tetevenska mountain (the highest mount is called Vezhen – 2198 m); Troyan mountain (highest mount is Koupena – 2169 m); and Kalofer mountain, including the highest mount of Stara mountain, called Botev (2376 m). The eastern boundary of the national park is formed by the eastern and northeastern hills of the massive of Mazalat. Larger territories of the park follow the flow of Gabrovitsa river, north of the village of Skobeleva. The western boundary goes along the line of Mihayla river – the mount of Mihayla – the saddle of Kosinski preval – the locality Bobcha. The northern and southern boundary are very uneven, characterized by a large height interval – from 500 m above the sea level (in Karlovo and Karnare) up to 1525 m above the sea level at Troyan - Rousaliyski pass and the locality of Koritata. The southern boundary

is strongly disjointed, passing along the lower- and average mountain belts. At places it almost reaches the village of Tazha and the town of Karlovo. It continues further to the west, reaching three kilometers north of Karnare, Rozino, Klisura and Anton. The national park covers 44 000,8 ha of forests and 26 668,7 ha high-mountain grazing lands and meadows.

The park area includes the northern and southern mountain hills. The latter is the main reason for the rich biotic and cenotic diversity. It also creates favourable opportunities for seasonal migrations of birds and big mammals within the protected area.

The floristic diversity (diversity of species and endemits) is the main criterion, used for planning of the territory of the national park. Thanks to this criterion, the park includes a majority of floristic species, places of formations and sites, where can be met the greatest share of rare and endangered species (Gusev, Dimitrov, Delchev, 1999). Within the park's area have been found 2 337 plant species and sub-species in total, including 1900 species and sub-species of higher plants, 188 species and taxa duckweed, 229 lichen species, 15 fern species and etc. This represents over 50 % of the biodiversity of Bulgarian flora. Within the boundaries of the high mountain afforested zone have been found 676 plant species. In other nine representative areas have been described 697 species, belonging to higher plants (Park management plan, 2001).

The results from the conducted research on floristic species confirmed that this part of Stara mountain is very rich in biodiversity. It represents an active formation center (in particular the massive of Botev – Triglav), which are the meeting points of migratory populations of species, living in northern and southern parts of the country. At this area have been reported 12 species and one sub-specie of local endemits, including: *Silene balcanica*, *Rosa balcanica*, *Alchemilla jumrukczalica*, *Alshemilla asteroantha*, *Trifolium pannonicum*, *Viola balcanica*,

Micromeria frivaldszkyana, *Seseli bulgaricum*, *Primula frondosa*, *Betonica bulgarica*, *Centaurea karlovensis*, *Satureja pitoza*. Other examples could be given with 12 species and two sub-species of plant endemits, which include *Minuarti bulgarica*, *Sedum stefco*, *Sempervivum erythraeum*, *Trifolium medium* and etc. **The unique character of the flora, established in the Central Balkan National park is evident further from the fact that this protected areas is a natural habitat for 67 species and sub-species, Balkan endemits and sub-endemits and 30 other plant species, being under the protection of the Law on biodiversity.**

Among forest formations, found in the park, largest areas are covered by summer-green forests. Out of them, the most wide-spread forest species are presented by *Fagus sylvatica*. Limited areas are covered by mixed formations of the latter and other broad-leaved species. According to Apostolova and Meshinev (1999), although the park flora is represented by large forest complexes of *Fagus sylvatica*, nevertheless their relatively good condition, there are evident traces of a long-lasting economic exploitation. As a result from the implemented afforesting, there are high levels of deterioration in the structure of forests, due to the fact that most of them have been turned into tiller species. On the other hand, the existing broad-leaved forests are very rare and subject to increased lightening. Tiller forests are characterized by lower productivity and have very low impact on the formation of environment. They have been raised uncontrolled without any cutting to give them proper aesthetical vision.

Very specific element of forest vegetation of this protected area represents the communities of *Abies alba*, referred to five associations. According to the same authors the presence of *Abies alba* in the vegetation cover could be evaluated as specific, due to the fact that in Stara mountain there is not a complete coniferous belt.

Furthermore, relatively low is represented the belt of oaks and hornbeam. The latter covers the lowest parts of the protected area.

The belt of coniferous forests has also limited dissemination within the boundaries of Central Balkan National Park. Out of them special attention is paid to the formations of *Pinus peuce*. Its distribution is concentrated north of the mouth of Vezhen in the Zlatishko – Tetevenska mountain, within the territory of the biosphere reserve of Tsarichina.

The formation, represented by *Picea abies* has also limited distribution. Except for associations and monodominating forests, it forms mixed formations together with *Pinus peuce*, *Abies alba* and *Fagus sylvatica*.

The presence of formations of *Pinus sylvestris* in the park is also very limited.

We have to point out, that the sites, formerly occupied by forest formations which have been cut off, have been replaced by bushes, and grass species including *Juniperus sibirica*, *Vaccinium myrtillus*, *Vaccinium vitis-idaea*, *Bruckenthalia spiculifolia*, *Festuca nigrescens* and etc.

The high-mountain bush sub-belt is widely distributed within the park. It comprises of nearly 300 plant associations, which is a proof for an extraordinary diversity of phytocenoses. The formation of *Pinus mugo* is very limited, represented by independent communities, covering small areas on the northern hills of the mount of Paskal, situated in the Zlatishko-Tetevenska mountain. Their existence proves that their formations have been of larger distribution in the past. *Pinus mugo* has exceptional qualities for its snow-retention abilities, anti-erosive and anti-avalanche effects. It also has a special role for the water flow in the mountain. The limited distribution and the well-preservation of the species in this part of the mountain is a sign that it needs protection and special measures to facilitate its natural distribution. (Park management plan, 2001).

The greatest share of sub-alpine belt is occupied by the formation of *Juniperus sibirica*. These species can be found from 1500 – 1700 to 2200 meters above the sea level. They have replaced forest communities that have been devastated. Numerous fires led to an establishment of bush and grass complexes of *Festuca nigrescens*, *Festuca airoides*, *Beleardiochloa violacea* and others.

The formation of *Vaccinium myrtillus* has also a derivative origin. It has very limited distribution, represented by 20 formations. The formation of *Arctostaphylos uva-ursi* is also limited on the territory of the park. It does not have great impact on vegetation cover of this belt. The same is the case with the formation of *Vaccinium vitis-idaea*. On the other hand, the formation of *Bruckenthalia spiculifolia* is found on southern sites, distinctive relief and eroded areas. Such places are also occupied by formations of *Festuca airoides*, *Beleardiochloa violacea*, *Juncus trifidus*, *Festuca balcanica*, *Calamagrostis arundinacea*, *Dechampsia flexuosa* and etc. The formation of *Nardus stricta* is wide distributed in the belt's area. It includes five associations (Spasov and oth., 1993)

The alpine belt has not strong and distinctive presence in the area. Plant communities, typical for the alpine vegetation are represented by *Agrostis rupestris*, *Juncus trifidus*, *Sesleria comosa*, *Festuca airoides*, *Alopecurus gerardii* and others.

Central Balkan National Park is characterized by very valuable and diverse fauna. For its ichthyofauna, this protected area is included in the zone of *Salmo sp.*, characterized by a small number of species. Current research reports only three fish species, including *Salmo trutta* – which is the main representative. In most of the cases it is the only representative of ichthyofauna, living in the rivers of the national park. Except for it, there are also species of *Salmo gairdneri irideus*, occupying Divchovo river, a feeder of Cherni Vit river. Another fish species is *Phoxinus phoxinus*. It can be met mainly in

the rivers of Tundza, Beliata and Damladere, along the southern slopes of the mountain (Beron and oth., 1990). According to the same authors, the population of these three fish species, found in the rivers of the park, have undergone changes. For example, the species of *Salmo gairdneri irideus* is almost completely replaced by *Salmo trutta*.

Central Balkan National Park is characterized by a relatively rich herpetofauna, comprising different amphibian and reptile species.

The ornithofauna of the protected area is very rich as well. Within the boundaries of the national park have been found 123 bird species during nesting periods for the last 30 years. Typical bird group, according to Spiridonov (1999) constitute 43 species, breeding in the mountain areas of the country. Two of these species are enlisted in the World Red Book and other 35 species are included in the endangered and rare birds in Europe. On the other hand, 14 species, not belonging to transition categories are enlisted in the Bulgarian Red Book (1985). For 30 other species (27 belonging to the above mentioned categories) in accordance with the Bern convention are considered as species, needing special territorial protection (Spiridonov, 1999).

Central Balkan National Park has very interesting mammal fauna. The group of small mammals is represented by two families (25 species and sub-species). For the last two decades have been found relatively small changes of the species, belonging to the same group, which is considered as an indicator for high sustainability of these communities. Eight of the species are internationally endangered. Representatives of *Spermophilus citellus* and *Nannospalax leucodon* are referred to the category of vulnerable species. (Park management plan, 2001).

The big mammals, living in the protected area are represented by 17 species. Except for them some extra species are considered in the same region, which appear in the park on temporary basis. In particular, these are the species of *Vormela peregusna*,

whose European sub-species is enlisted in the World Red Book. Representatives of the same species are reported in some rock regions on the territory of the biosphere reserve of Steneto. The species of *Canis aureus*, reach in summer the ridge of Stara mountain, along the valley of Cherni Osam river (Spiridonov and oth., 1999). That way, according to the same authors, almost all Bulgarian autochthonic terrestrial large mammals live on the territory of this protected area. Bulgarian endemics are represented by *Rupicapra rupicapra balcanica* and *Mustela nivalis galinithias*. Four species of ungulates and two species of large mammals are considered of conservation importance. The park is occupied by large numbers of the Bulgarian population of *Ursus arctos* – numbering nearly 60 animals. Their reproduction and feeding is usually within the boundaries of the protected area. They rarely leave it with the exception of the periods of seasonal roaming

Central Balkan National Park offers excellent opportunities for tourism development. On its territory there are twenty tourist huts. The central mountain ridge passes through the central ridge, starting from the Atlantic ocean and reaching the Black sea. Tourist routes in the park are 670 km long. A starting point for tourist itineraries from north are the villages of Cherni Vit, Ribaritsa, Chiflik and Cherni Osam, the town of Apriltsi, the locality of Lagat. There are 16 blazed tourist itineraries. Along the southern slope of the mountain starting points are the villages of Anton, the town of Klisura, the village of Rozino, Hristo Danovo, and the towns of Sopot, Karlovo, Kalofer, the village of Tazha, the village of Gaberovo and the village of Skobeleva where the number of the blazed traces is nine. Furthermore, thanks to numerous rock massives and walls, there are excellent opportunities for rock-climbing and alpinism. Most suitable for such purposes are the rocks in the regions of the mount of Koupena, Severen Dzhendem, the area above the huts of Rai, Pleven and etc. New tourist itineraries have

been created with the aim to ensure acquaintance of tourists with nature. They include cycle tracks, historical and cultural routes, winter and summer alpine routes. Measures have been undertaken to provide visitor infrastructure, including information boards, which describe valuable species of nature in the park, as well as visitation rules, resting places and etc.

Protected areas, in particular national parks, provide excellent opportunities for ecotourism development. This form of tourism is nature-oriented, preserving environment and contributing to the wellbeing of local communities at the same time. It is one of the fast-growing tourism segments in world scale. This sustainable and green form of tourism creates good opportunities for growth of local economy as well as for development of rural areas in partnership with the management authorities of protected areas. Ecotourism experts have developed special programmes, offering extreme and adventure tourism activities such as alpinism, ice-climbing, caving and etc. A new hiking trail has been created covering the area from the town of Kalofer to the hut of Rai. Other offerings include winter itineraries with ski or snow-shoes, trails, ensuring acquaintance with the plant diversity of the park, eco-trails, providing unusual and extreme adventures, convenient and safe places for one-day picnics, green schools for children and their parents, pleasant adventures in the newly created bivouac of Byala reka, cozy family hotels and traditional cuisine, craft shops and etc.

Especially important issue for the larger protected areas, in terms of the opportunities for tourism activities represents their functional zoning. It is the main tool for achievement of the long-term management goals. Zoning is used to determine special territories within parks, under special management regime. This is made for the following purposes. On the one hand, it contributes to proper distribution of various activities, better distribution and

use of park's resources and on the other hand, it provides information and educates park visitors about their scope of activities and recommended behavior. These principles are applied in the Park management plan of Central Balkan. For that reason within the park's territory have been established the following zones – reserve zone, zone of limited human impact, tourism zone, zone for buildings and establishments and multipurpose zone.

As we already mentioned, the European network of protected areas called PAN Parks gave a certificate to Central Balkan National Park for its well-preserved managed European wild nature. The park directorate ensures preservation of natural environment and creates favourable conditions for sustainable tourism through the means of partnerships, encouraging and sustaining business initiatives.

Rila National Park was officially proclaimed in 1992. It was re-categorized again in 1999. Currently, it is the biggest protected area of this kind in the country. The park covers 81 046 ha and it is one of the most unique for its biogeography, especially for its floristic diversity. Within its territory have been reported 1400 higher plants, accounting for 38.35 % of the total number of Bulgarian higher plants. Except for that there are 11 fernlike species, 6 gymnosperm species, 80 monocotyledon species and 1303 dicotyledon plant species. Highest diversity in species is reported for coniferous belt and high-mountain bush sub-belt, where 1200 plant species have been reported. Due to the extreme character of numerous ecological niches, the high-mountain grass sub-belt of the alpine belt is richest in species. There are nearly 250 plant species on this territory.

According to the Management plan of Rila National Park (2001) the flora of the park consists of several components of phytogeographical viewpoint. These are Eurasian component, which includes about 700 species, circumboreal component,

represented by 105 glacial elements and relicts; central European component comprising 566 species. Special importance should be paid to endemic component. The total number of endemic taxa within the territory of Rila National Park reaches 57, including some local endemics of *Primula deorum*, *Alchemilla pawlowskii*, and *Rheum rhaponticum*. Bulgarian endemics are 18 species, the Balkan endemics – 36 species. The relict component within the boundaries of this protected area is represented by 105 taxa (7,36 % of the total number of higher plants). Out of them 74 species are glacial relicts (5,14 %). Tertiary relicts are 31 species (2,21 %).

The species of the park, enlisted in the Bulgarian Red Book (1984) include 98 species, out of which 8 are endangered and 90 are rare. Under protection in conformity of the Law on biodiversity are 50 species. The IUCN Red List also enlists 9 species, while the European list (E/ECE/1249) includes 6 species. The Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) enlists 7 species and Directive 92/43 of the European Economic Community enlists 5 species.

Large numbers of rare and endangered species of various type have been established within the boundaries of Malioviski and Musalenski areas of the park. Representatives of the same species have also been reported in the region of Marichini, the Seven Rila lakes and within the area of Urdinia circus (Peev and others., 2001). According to the same author, analysis on local flora and fauna reveal that the central areas of Rila National Park constitutes a refugial and formation center. Within the park boundaries have been reported one species of lower and 140 species of higher plants. They refer to 49 families.

The territory of Rila National Park included one of the largest and most imposing forest plantations of the country. The forest fund comprises 53 481 ha, accounting for 66 % of the overall protected area. The afforested areas is

42 560,6 ha (79,6 % of the forest fund in the park). The afforested areas cover 10 601 ha, of which 778.3 are forest pasturelands. Out of them the natural vegetation covers 24 956,8 ha (58,7 %), *Pinus mugo* - 15 359,5 ha (36,1%) and artificial plantation (cultures) - 2 235,3 ha (5,2%). The area of the forest fund, encompassed within reserves is 16 163,3 ha (30,2 %), of which 9 978,2 ha are afforested. Another large share of the park belongs to the group of protected forests – 26,2 % of which 7 902,1 ha represent anti-erosive plants and 6 088,8 ha – forests with water-storage functions.

Within Rila National Park have been reported 33 forest species, four of them, representatives of *Pinus nigra*, *Pseudotsuga menziesii*, *Larix desidua* and *Pinus strobus* are only in cultures. Large number of the forest vegetation, in particular 40 194,2 ha (94,4 %) are coniferous species, including 11 180,5 ha (26,3 %) of *Picea abies*; 6 341,ha (14,9%) of *Pinus sylvestris*; 4 951,6 ha (11,6%) of *Pinus peuce*; 1 896,5 ha (4,5%) of *Abies alba* and others. Broad-leaved species cover 2 366,4 ha where the largest share represent the species of *Fagus sylvatica*.

The park area is dominated by mixed vegetation, including mainly coniferous species, whose share reaches 60 % of the total afforested areas. Dominating species of pure forests are representatives of *Picea abies*, followed by *Pinus sylvestris* and *Pinus peuce*. There are also pure plantation of *Abies alba*, *Populus tremula*, *Betula pendula*, *Carpinus orientalis*, *Acer mpseudoplatanus* and others. The average age of forests is 99 years, where it is 91 years for coniferous species and 74 years for broad-leaved species. Forests, aged over 100 years cover 13 514 ha (31,8 %). Out of them coniferous forests cover 12 748, 2 ha (31,7 %) while broad-leaved forests encompass 766,4 ha (32, 4 %). The total volume of plantations is equal to 6 228 681 m³. The highest share of the overall biomass represent the forests of *Picea abies* (48 %, followed by *Pinus sylvestris* (20 %), *Pinus peuce* (18 %) and

Abies alba (18 %). The largest proportion of broad-leaved forests is represented by *Fagus sylvatica* - 223 125 m³.(4%). The average storage of one hectare is equal to 233 m³.

The majority of forests have good health status and if any variations are reported, they are of local and temporary character. Lowest levels of deterioration are reported for the communities of *Pinus sylvestris* and *Pinus peuc.* On the other hand representatives of *Picea abies* and *Abies alba* have the worst health status.

Rila National Park includes the following vegetation belts - a belt of mesophyll deciduous forests, dominated by mixed oak, breech and hornbeam trees. It also includes a breech sub-belt (partly formed); coniferous belt and high-mountain (alpine) belt, including two sub-belts – a high – mountain bush and grass belts.

The vegetation in the park is referred to the Rilo-Rhodopian subregion of Illyrial floral province of the European broad-leaved area. It is represented by 12 classes, 12 orders, 17 unions, 92 associations and 28 sub-associations. All classes, whose phytocenoses can be found within the park are typical for the vegetation of the European mountains, except for the order of *Seslerietalia comosae* Simon (1958), which is a Balkan endemit. The remaining species are the same for all mountains in Central Europe. In scope of the vegetation unions, six of them are regional for the Balkans, three are Carpatian Balkan, and the remaining eight are European. The majority of the represented associations are Bulgarian or distributed in Rila mountain only. In other words they have endemic origin in terms of Bulgarian or the vegetation in the mountain of Rila. (Peev and oth., 2001).

Rila mountain, including the park's area, is characterized by a significant faunistic diversity. Vertebrate fauna is very diverse. In term of the fish fauna, this area is part of the *Salmo sp.* zone of Rila rivers. Out of them only Cherni and Beli Iskar refer to the Danube basin and the others refer to the Aegean basin.

Compared to other protected areas, Rila National Park has very poor amphibian fauna. Very small is the number of reptiles consisting of only 20 taxa and seven of them live in areas of the park borders or beneath them. The main reason for this relatively poor taxonomy content of the reptile group is explained to a certain degree with the fact that majority of the species are thermophilic whereas the climate in the average and high parts of Rila mountain, including all northern mountain slopes, are cold. The dominating share of biodiversity includes mainly Central and North European species, which are widely distributed in Bulgaria. Only some of the Mediterranean species inhabit the mountain hills or sites, located at 1200 – 1300 meters above the sea level. The species of *Podarcis erhardi riveti* is the only endemic species of the herpetofauna in Rila National Park. Relicts include *Triturus alpestris*, *Rana temporaria* and *Lacerta vivipara*. The species of *Triturus alpestris*, according to Beron and oth. (2001), are isolated only in certain "points" in several Bulgarian mountains and for that reason they do not have a genetic relations to one another. Eight of the reported amphibians and reptiles in Rila National Park are protected and one of the species is enlisted in the Bulgarian Red Book (1985). Another is enlisted in the IUCN list, whereas all 20 species are included in the Bern convention. Two of the species are included in the EMERALD network.

The ornithofauna of Rila National Park is very interesting. In breeding period the number of bird species reaches 112. The dominating share of bird populations include *Passeriformes* - 65; *Falconiformes* - 17; *Piciformes* - 8; and *Strigiformes* - 7, accounting for a 86, 5% of all bird species, found in the park. Relatively well are represented the endemic and relict species, as well as the species, enlisted in the Bulgarian Red Book (1985), in the World List of Endangered Species (IUCN, 1996), as well as other bird species on the European continent, needing special protection.

The evaluation reveals, that Central Balkan and Rila National Parks are inhabited mainly by species typical for the temperate latitude of the Northern Hemisphere, namely palaearctic, European, European and Turkestan as well as Holarctic species. The zoogeographical similarity between the fauna of Rila and Central Balkan National Parks arises a question about their belonging to the Alpine Karpatian or Southeuropean ornithogeographical sub-population (Beme classification, 1975). According to this author, taking into consideration ornithofauna differentiations in Rila and the mountains, situated in the south (Pirin, Maleshevska, Ograzhden, Belasitsa, Sakar and Eastern Rhodopes and etc.), especially in the lower mountain parts and their valley fields, for its ornithological species Rila mountain, like Vitosha mountain, have to be referred to the Alpine – Carpatian sub-province.

This national park is also very interesting for its small mammals. Of great importance are the areas situated in the region of the Seven Rila lakes and Belmeken, for their very rich biodiversity.

In terms of bat species we have to point out that the lack of natural caves within the territory of Rila National Park is a limiting factor for the distribution of typical cave bat colonies. Some species use artificial underground tunnels or pseudo-carst caves as the only suitable places for wintering and breeding.

It is necessary to emphasize that there is a lack of data concerning bat biology, numbers as well as the distribution of big mammals, even for the horizontal and vertical distribution of typical species. The existence of rare species in the park, though the latter is doubtful at theoretical level, is evaluated only on the basis of isolated, single reports and findings. The conditions related to the species of conservation importance are poorly examined.

Due to the fact that Rila National Park is located at relative high altitude, the

fauna of big mammals is poor. The high mobility of species together with a relatively small number of species compared to invertebrates is the main reason for their poor taxonomic relict and endemic groups. (Spasov and oth., 1999). The same authors assume that the Balkan endemits in the park include *Rupicapra rupicapra* and *Mustela nivalis*. Other publications report that the species of *Mustela nivalis*, found in Bulgaria and Greece are identical to the ones, inhabiting the island of Crete. It is considered that these species are not endangered, neither within the park's area, nor in the country as a whole, nevertheless they are probably southern Balkan endemits. The matter concerning the species of *Felis lynx* is still questionable. The latter, according to some authors represents a Balkan subspecies. On the other hand, *Ursus arctos* is relict of pleistocene autochthonic subspecies.

Although the park covers a relatively large area, it does not form an independent, natural and self-maintaining ecosystem of big mammals. Almost all examined species inhabit independent or herd territories. Their numbers, distribution and dynamics in populations are influenced by anthropogenic activities within the park's territory and its surrounding areas.

Rila National Park is also an important tourist site. Within its territory there are 17 huts and their capacity is 1938 beds. There are a lot of tourist itineraries, nationally and internationally recognized passing through the park.

This protected area is an integral part of two of the main European tourist routes – E4 and E8. The main entering points for the park are the tourist complexes Panichiste, Maliovitsa, Borovets, Semkovo, Trestenik, Belmeken, Kostenets and Bodrost. As secondary entering places are the village of Govedartsa, the hut of Gerginitza, the tourist complexes of Predel, locality of Slavovo, the river of Dupnitska Bistritsa and many others.

Rila National Park attracts a large number of visitors, allowing them an opportunity to enjoy the nature in the park.

One of the biggest ski resorts in the country – Borovets is located very close to the park, but it is located outside its territory. At the park entrance, in the area of Maliovitza, there is a National centre for training of alpinists and mountain guides. This way the protected area approved as an excellent place for educational programmes and mountain sports. The existence of rock walls (Northern wall of Maliovitza, Zliat zab, Orlovets and etc.) create excellent conditions for alpinism. There are suitable facilities for alpine and adventure ski tourism in proximity with the huts of Skakavitza and Rilski Ezera. There is a system of sites, suitable for relaxation and camping. Under construction is also visitor infrastructure, which will provide information about the park and will further contribute to the establishment of recreational sites.

An increasing number of tourists are interested in specialised forms of tourism. For that purpose there has been created a pilot region for ecotourism, situated in the northern parts of the park. It covers the regions of Govedartsi and of Beli Iskar. There is an easy access to the park and both regions are one hour far from the city of Sofia. Ecotourism programmes consist of walking itineraries, leading to remarkable natural sites, observation of wild animals and acknowledgment with the plant diversity of the area. Available are also riding tours, mountain and cycling tracks, winter tours with ski and ski-shoes, eco-itineraries and special interpretative routes, ensuring adventurous experiences, green schools for children and their parents and etc.

The starting point is the town of Samokov, famous for its painting school, one of the most popular on the Balkans. During the Bulgarian Revival, the town was one of the major trade, crafts and cultural center in Bulgaria. The villages of Beli Iskar, Govedartsi and Mala Zakrila are situated close to the park. They offer traditional ambience, clean air and warm hospitality.

In 2002 was established for the first time in Bulgaria a specialized bothanical itinerary called "Friends of the plants", in the park

area called Urdina reka. The starting point of this itinerary was Yavorova poliana and the final was a locality named after Gorno pole, situated at the mountain ridge at 2000 meters above the sea level. (Peev, Popova, 2002).

However, Rila National Park is confronted to serious ecological problems. Today, when we consider the deteriorating influence, caused by the hydroconstructions in the area, another concern is related to the idea to build a resort complex "Samokov – Borovets – Beli Iskar", more popular as "Super Borovets". Its implementation will deteriorate to a large degree the natural resources in the region. Similar problems exist in the localities of Panichishte and Kartala in the city of Blagoevgrad.

Subject of importance concerning the nature protection in Rila National Park refers to the proper implementation of the Park Management Plan. It also has an essential role for its recreational use and functional zoning. **The park area is divided into five functional zones, including – reserve zone (16 222 ha), zone of restricted anthropogenic impact, tourist zone (about 1 000 ha); zone of buildings and other facilities (1000 ha) and multipurpose zone (about 63 000 ha).**

In the meantime Rila National Park got a positive evaluation and obtained a PAN Park certificate in November 2005, meeting the criteria of this international initiative. The certificate serves also as a proof that the park is an integral part of this European network of protected areas, representing a well-preserved and maintained European wilderness area. In its nature this is a very important recognition for the measures, undertaken by our country to preserve its biodiversity.

In a conclusion, we would point out that this is a very important international initiative, related to conservation of biodiversity in hand with further development of alternative forms of tourism, especially ecotourism.

Furthermore, it would be purposeful to undertake practical measures aimed

at enlargement of the PAN Parks network, in national and global scale alike. The latter requires collaboration of professionals and experts, working in the fields of biodiversity conservation and sustainable tourism. Taking into consideration the national and international significance of Pirin National Park, in our opinion there exist favourable conditions for its certification as protected area of similar designation.

The inclusion of both Bulgarian national parks – Rila and Central Balkan in the network of PAN Parks, allowed the local communities, living in the surrounding areas to attract international tourist attention toward aforementioned mountains. Tourists arrive even from the most distant countries on the Old continent. Tourism activities could be further developed on the condition of well-evaluated and preserved biodiversity.

A very positive role in terms of tourism development represents the initiative for establishment of local PAN Park groups in both parks. They will serve as official counselling bodies, involving the Directorates of both national parks,

representatives of the local authorities, other state institutions, local entrepreneurs, working in the field of ecotourism, non-governmental organizations, private businesses and etc.

Similar groups have the aim to unite the efforts of the Directorates of national parks and all stakeholders in order to develop sustainable tourism within surrounding areas. These groups also turn into places for discussions and problem-solving concerning development of protected areas of similar designations for the aims of sustainable development.

In order to fulfill their obligations as protected areas, involved in one of the most important international initiatives, uniting nature conservation and tourism development, it is of great importance to implement strictly the regimes of management and maintenance of these national parks, as stated in the Park management plans. At the moment, unfortunately, there are serious threats in Rila National Park concerning preservation of ecosystem integrity, caused by entrepreneurial intentions for building large resort ski centres in the regions of Borovets and Panichishte.

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