

Report of the Excursion to Ancient Beech Forests in Albania and Macedonia

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Albania, Shebenik-Jablanica National Park, Rajca, ancient beech forest with *Allium ursinum*
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1. Reason and background

EuroNatur is active on the Balkan Peninsula and especially in the Southwest Balkan since more than 20 years. Focus of the activities is the protection of the most valuable lakes and wetlands as well as the most important mountainous areas. Of particular natural value are the areas which were formerly part of the iron curtain. EuroNatur – together with many other organizations – has developed an initiative to protect these areas: the European Green Belt Initiative. Especially along the border of Albania, with Montenegro, with Kosovo and with Macedonia many landscapes deserve a protection status and therefore EuroNatur mainly with its partner organizations in Albania and Macedonia promotes the designation of National Parks and Nature Parks. Two National Parks and one Nature Park in Albania were already proclaimed based on these activities. In Macedonia two more National Parks were proposed but not designated yet.

Protection and Preservation of Natural Environment in Albania (PPNEA) is a non-governmental environmental organization that operates in the entire territory of Albania. PPNEA is known to be the first environmental organization in Albania, as it was officially established on June 13th, 1991, with a special decree of the Albanian Academy of Sciences at the time. It emerged in a period of turmoil and socio-economic change in the country and the wider region - a time where environmental issues were looked down upon and given marginal priority in governing and policy issues. Following its creation, PPNEA established as a highly active organization, participating in and organizing many environmental awareness campaigns in Albania as well as undertaking a vast array of different projects with focus on various environmental issues. PPNEA is particularly concerned with conservation and sustainable development issues and its main areas of interest are wildlife management and endangered species conservation, local sustainable projects and initiatives and landscape conservation.

The Macedonian Ecological Society (MES) was established in 1972 in order to unite ecologists and environmental experts in Macedonia. MES is a non-governmental organization with about 100 active



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members. MES has the following sections: Forest Ecology, Urban Ecology, Agroecology, Hydrobiology, Biodiversity, Protection of the Environment, Ecological Education, Young Ecologists.

The most important activities in the last 10 years are: Organization of Congress of Ecologists of Macedonia with International Participation, publication of the scientific journal "Ecology and Protection of the Environment" and a number of concrete nature conservation projects such as the Balkan Lynx Recovery Project.

With regard to the objective of this activity it is important to mention that EuroNatur, PPNEA and MES are cooperating since more than ten years in a very intensive way and all three organizations are jointly involved in a number of projects.

The other background is the so called "European Beech Forest Initiative", proposed by the "Buchenwaldinstitut e.V." and discussed in a workshop 2007 at the International Academy for Nature Conservation Isle of Vilm (Knapp & Spangenberg 2007). With the inscription of the Ancient Beech Forests of Germany as extension of the Primeval Beech Forests of the Carpathians World Natural Heritage, the World Heritage Committee 2011, following the recommendation of IUCN (2011), invited the state parties to continue the nomination process towards a finite and complete transnational series nomination of European beech forests (WHC 2011). The ongoing process for a European network of primeval and ancient beech forests is pushed by the workshop series "Beech Forests – Joint Natural Heritage of Europe" at the International Academy for Nature Conservation Isle of Vilm since 2010 (Knapp & Fichtner 2011, 2012).

In the framework of the currently running R+D project "World Heritage European Beech Forests" (FKZ 3512 82 1100), which is financially supported by the German Federal Agency for Nature Conservation (BfN), a comprehensive overview of ancient and not used Beech forests in Europe as well as a map with the different Beech Forest Regions (BFR) and the current Beech forest distribution was worked



out. The intermediate results and conclusions were presented at the international conference „Primeval Beech Forests – Reference Systems for the Management and Conservation of Biodiversity, Forest Resources and Ecosystem Services” in June 2013 in Lviv (Ukraine).

The Moesian-Balkanic Beech Forest Region covers the Southeastern part of the European Beech Forest area. With regard to the recommendation of the World Heritage Committee to present a comprehensive, finite and transnational nomination of European Beech Forests this region is very relevant. It is characterized by glacial refugia of *Fagus sylvatica*, transitional forms (*F.moesiaca*) towards *F. orientalis* (with intra-species diversity), endemic Beech Forest types and presumably even virgin forest areas.

The plantgeographical and phytosociological position of the Balkanic beech forests is analyzed by Horvat, Glavac, Ellenberg 1974, Bohn & Bergmeier 2003, Bergmeier et al. 2004 as well within European frameworks of beech forests by Bohn et al. 2002/2003, Dierschke 2004, Dierschke & Bohn 2004.

A significant part of the Moesian-Balkanic Beech Forest Region is located in Albania and Macedonia. Although the forestry aspects of Beech Forests in Albania are quite well studied, only very few and contradictory information on the current situation are available, especially with regard to the envisaged nomination as World Heritage. In this respect, nothing was known about Macedonia.

2. Goal of the visit

The goal of the excursion was to explore the concrete potential of both countries for the further nomination process and to collect comprehensive information of the most promising sites. Based on long lasting experience and profound knowledge, EuroNatur together with its partner organizations PPNEA in Albania and MES in



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Macedonia proposed three selected sites for the joint excursion: Lumi i Gashit Strict Protected Area (Albania), Dlaboka Reka located in the Mavrovo National Park (Macedonia), Rajca located in the Shebenic-Jablanica National Park (Albania). The main objective of the joint field trips was to check whether these sites would qualify for the nomination process as World Heritage.

3. Partners and participants

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4. Itinerary

The excursion was jointly prepared and organized by EuroNatur, PPNEA and MES (logistics, accommodation, guiding and information regarding the sites).



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Sunday, 14th July 2013:

Flight to Tirana; drive by car via Kukes – Vronica (border with Kosovo) – Prizren (Kosovo) – Dakovica – Morina (border with Albania) – Bajram Curri – National Park Valbona.

Accommodation in Valbona

(Hans Dieter Knapp, due to later arrival accommodation in Tirana)

Monday, 15th July 2013:

Drive by offroad car via Cerem to the summer pastures of Markofshes. Hike to explore the Strict Nature Reserve Lumi i Gashit, jointly with experts of PPNEA.

Accommodation in Valbona.

Tuesday, 16th July 2013:

Drive to Macedonia via Bajram Curri - Morina (border with Kosovo) - Dakovica – Prizren (Kosovo) – Deneral Jankovic (border with Macedonia) – Skopje – Tetovo – Gostivar – Mavrovi Anovi – Mavrovo National Park.

Hike in the upper Radika valley with a mixed fir and spruce virgin forest.

Accommodation in Mavrovi Anovi.

Wednesday, 17th July 2013:

Exploration of the Beech Forest of Dlaboka Reka in the Mavrovo National Park, jointly with the experts of MES.



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Drive to Albania via Debar – Struga – Qafa San (border with Albanian) – Qafe Thane.

Accommodation in Qafe Thane.

Thursday, 18th July 2013:

Drive with offroad car via Prrenjas and Rajca in the National Park Shebenik-Jablanica. Hike to explore the virgin forest of Rajca in the Bustrica valley, jointly with the experts of PPNEA.

Accommodation in Elbasan.

Friday, 19th July 2013:

Final discussion and review of conclusions; drive to Tirana; flight back via Vienna.

5. Outcome (analysis)

5.1. Position and situation of beech forests in Albania and Macedonia

In the 1920s German vegetation geographers and foresters got interested in the Beech Forests of Albania which were still covering large areas (Dengler 1931, Markgraf 1927, 1931, 1932). During the Communist period the main task of the Albanian forestry has been to transfer virgin forests into commercial forests. Especially in the 1980s the forests in Albania were overused due to the economic isolation of the country and its needs of fire wood and timber. Since 1990 a mainly uncontrolled exploitation of forests by unspecialized small businesses took place. Clear cutting and not sustainable practices were common (Tabaku u. Luarasi 2011, Tabaku 2012). The current Beech Forest area in Albania is estimated at 150'000 ha (Schwaderer



et al. 2012), but ancient and virgin forests have been already completely altered. The most relevant remnants of ancient and virgin forests are expected in the Strict Nature Reserve „Lumi i Gashit“ and in „Rajca“ in the Shebenik-Jablanica National Park.

In Macedonia 12 virgin forests sites of very small size (most of them < 20 ha) were identified. Only two sites are larger 30 ha: Imerova Chesma (83 ha) and Dlaboka Reka (144 ha) in the Mavrovo National Park. All identified sites are located close to the state border (Trendafilov & Velkovski 2011, Schwaderer 2012). Several beech forest types were analyzed in the Galicica Mountains in the South-West of the country, but there no virgin forests remained (Matevski et al. 2011).

5.2. Lumi I Gashit Strict Protected Area (Albania)

The Strict Nature Reserve “Lumi i Gashit” (IUCN-Category I) with a surface of 3'000 ha was designated by cabinet decision No. 102 on 15.01.1996. It belongs to the Bjeshket e Nemuana mountains (in English often referred to as Albanian Alps) and is located in the very Northeast of Albania in the border zone with Montenegro and Kosovo in the area of the European Green Belt. Bjeshket e Nemua is a high-altitude mountain with peaks reaching 2'694 meters above sea level. The Strict Nature Reserve borders East to the 8'000 ha large „Tropoje Lugina e Valbones“ National Park, designated as well in 1996.

The Strict Nature Reserve is difficult to access. One option is to drive by offroad car from Bajram Curri. The almost 3 hour-long ride starts on a paved road along river Valbona towards the village of Valbona. Most parts of this marvellous valley belong to the National Park. An unpaved road leads to the village Cerem and further to the summer pastures of Markofshes in the high mountains. The remoteness and the location in the former border exclusion zone („kloni) are the main reasons why forests on the slopes of the river Lumi i Gashi were not heavily impacted and in some parts even virgin forests cells survived.



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The reserve covers the upper catchment area of the mountain river Lumi i Gashit including the spring and its partly only temporary tributaries. The reserve contains the different elevation zones from 1'000 meters at river level up to the watershed along the Eastern border of the mountain. It is characterized by differentiated vegetation complexes including lower mountain forests up to alpine rocks. The timber line is at approximately 2'100 meters above sea level but due to grazing it is lowered down to 1'700 meters.

Sheperds are living all summer in the high mountain valleys. Here, alpine farming with cattle and sheep is taking place. Pollarding of trees is still very common. Around the scattered summer settlements forests are thinned out and partly totally pushed back. The natural forests were replaced by flowery mountain pastures but due to overgrazing also by degraded and eroded areas.

The Strict Nature Reserve as well as the National Park is lacking a functioning administration and management. For river Valbona the construction of up to eight hydro power plants is under discussion. The realization would destroy core zones of the Valbona National Park and lead to a dramatic loss of natural values.

Beech Forests are covering approximately one third of the Strict Nature Reserve (around 1'000 ha), more precise information is lacking. As candidate for the nomination process some hundred hectares in the upper valley would qualify. Especially the Beech Forests on steep slopes in the montane zone, partly mixed with *Abies alba* and *Picea abies* as well as with *Pinus peuce* (endemic for the Balkans) should be considered.

The inclusion of a *Pinus heldreichii* rocky forest in the Beech Forest belt and the joint occurrence of *Fagus sylvatica* and *Pinus peuce* in large stands of high integrity and in elevations higher than 1'700 m are a remarkable unique feature of tremendous value. The integrity is expressed by the structure of the forests (old trees and high deadwood share) and by the occurrence of the virgin forest indicator lichen *Lobaria pulmonata*, which is growing on the stems of old Beech trees.



5.3. Dlaboka Reka in Mavrovo National Park (Macedonia)

Not much is known about Beech Forests in Macedonia. MES has conducted a survey of the remnants of virgin forests in the country. About 12 localities, mainly in border areas, were identified. These remnants are very small with surfaces ranging from 2 to 27 ha. Only two larger areas were found: Imerova Chesma with a surface of app. 83 ha and Dlaboka Reka with 144 ha.

Main reason for the almost complete disappearance of virgin forests is forestry policy in Yugoslavia with a systematic transformation of natural into commercial forests and its use as well as the current not sustainable use through public and private enterprises with a focus on short term revenue.

The identified virgin forest „Dlaboka Reka“ is located in the heart of the Mavrovo National Park which was established in 1949 with surface of 11'800 ha. Today the National Park covers a surface of 73'100 ha and it includes the 1952 constructed Mavrovo barrier lake as well as some villages. The entire area belongs to the European Green Belt. Till the 1950s clearcuttings took place in order to create open pastures for sheep. Currently old plans from the 1970s to construct two further hydro power plants are reactivated. The plans are very controversial and their realization would destruct parts of the National Park and would decrease the total natural value of the area. During an assessment of the zonation system it was proposed to transform former core zones to sustainable use zones. Presumably the reason for this transformation is not based in a proofed loss of natural values but in the need to downgrade the areas which will be affected by the construction of the hydro power plants.

The virgin forest „Dlaboka Reka“ is located some kilometers West of the upper Radika valley. In the valley of the small mountain river Dlaboka Reka a macadam road leads to the small village Nistrovo. Only some months ago, from here to the edge of the forest a road with a length of about 4 km was built. In between the small and almost abandoned settlement Zhuzhnje is located. Recently the



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orthodox church of the settlement was renovated, some meadows are currently used and some slopes north of the settlement are grazed by cattle and sheep.

The river Dlaboka Reka has its source in more than 2'000 m altitude just below the mountain ridge which is marking the border with Albania and adjacent to Korab (2'751 m) which is the highest peak of Macedonia. Up to the timberline the extremely steep slopes of the upper Dlaboka Reka valley are covered by Beech Forests. One can reach this area by foot in a few hours from Zhuzhnje on a former mule trail.

The impact of the former forest use is decreasing significantly with the distance from the settlement. Close to the abandoned village one can find bizarre individuals of formerly pollarded Beech trees as well as small patches of meadows under succession, but the further away from the settlement the more the signs of human impact are diminishing and one reaches forests which probably never were altered with saw and axe.

These are pure Beech Forests with some old and very vital individuals of *Abies borisii-regis*, an endemic fir species for the Balkan. Beech trees are growing here in high diversity: with straight and slim stems, with twisted stems and individuals with many different stems but also trees adapted to heavy snowfall and avalanches. These specific forms are typical for the upper timberline and for sections with a high probability of snow- and landslides.

The entire Beech Forest complex is covering about 400 ha and includes the valley of Dlaboka Reka, containing a number of avalanche tracks and landslides, sliding blocks and screes. The tremendous dynamic due to the extreme steep slopes and creek valleys needs to be emphasized as well as the high integrity of the stands without use during the last decades and in some parts completely without ever being used. Remarkable is the Northern border of the range of *Abies borisii-regis* and the occurrence of the critically endangered subspecies of the Eurasian lynx, the Balkan lynx (*Lynx lynx balcanicus*).



5.4. Rajca, located in the Shebenik-Jablanica National Park (Albania)

The forest of Rajca with a surface of 4'700 ha has been designated as Strict Nature Reserve in 1996. Today it is part of the Shebenik-Jablanica National Park which was established in 2008 by a cabinet decision. The process for the designation of the 33'928 ha large National Park situated at the border with Macedonia was initiated by PPNEA and EuroNatur. The area belongs to the European Green Belt and EuroNatur together with MES has stimulated a process to designate an adjacent National Park on the Macedonian side as well. Both protected areas together would cover a surface of more than 50'000 ha.

The Shebenik-Jablanica National Park in Albania is administered by the forest directorates Librazd and Prrenjas which both are part of the Ministry of Environment. The National Park is divided in four zones:

- a - Zone Qendrore (Core zone)
- b - Zone Perdorimi Qendrushem (Sustainable Use Zone)
- c - Zone Rekreative (Recreation Zone)
- d - Zone Perdorimi Traditional (Traditional Use Zone).

The area of Rajca with its virgin forest complexes, located in the upper Bustrica valley, has been conserved due to its isolation in the former border zone („kloni“) of the iron curtain and due to its remoteness with very difficult access.

Rajca can be reached in an app. one hour drive from South (Prrenjas) along the small villages of Rajca, Sutani and Skanderbeu on macadam roads. Below the peak Kisha e Bardhe (1'396 m) the former Beech Forest is heavily impacted. Grazing and pollarding led to a significant degradation, in some parts the forest is completely replaced by fenced meadows. The locals blocked the road here in



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order to prevent cars and trucks to drive further, only hiking on a mule trail is possible.

During the drive to Skenderbeu but also on the hike in the Bustrica valley the influence of traditional land use on vegetation and landscape can be observed. In the hilly landscape around Rajca and Sutani only on extreme steep slopes very few and also grazed remnants of termophil mixed oak forests of the sub-montane belt can be found. These remnants give an insight in the composition of the natural vegetation: *Quercus trojana*, *Quercus petraea*, *Qu. cerris*, *Carpinus orientalis*, *Ostrya carpinifolia*, *Acer opulifolium*, *Acer campestre*, *Cornus mas*, *Fraxinus ornus*, *Corylus avellana* and some *Fagus sylvatica*.

These forests are destroyed on a large scale and they are, due to grazing, replaced by *Buxus sempervirens*. The bushes of *Buxus sempervirens* are dominant and only some *Juniperus oxycedrus* and *Pteridium aquilinum* are growing. Very few trees of *Quercus petraea*, *Acer opulifolium*, *Fraxinus ornus*, *Carpinus orientalis* have been surviving. Cattle do not eat *Buxus sempervirens* and apparently this is the reason for its massive occurrence. Till the 1990s in the area of the current National Park some 45'000 sheep were grazing, especially on the summer pastures above the forest belt. Today still some 6'000 sheep are estimated to use these summer pastures. The former transhumance system is not in place any more.

Close to even the last settlement in the Bustrica valley the Beech Forest, due to local use, is very degraded. Many trees are pollarded and the entire stands are thinned out like a park landscape. The herb layer is grazed heavily and other parts are overgrown by bracken. Old Beech trees are burnt at the stem foot in order to tumble them. The wood of the fallen trees is cut into small pieces and then picked up by donkeys and mules.

With increasing distance to the last settlement the human impact is decreasing significantly. After two hours of walking hardly any human land use impact can be found. The areas higher than app. 1'230 m on both sides of the Bustrica valley and their tributaries are covered by a



close, old and virgin like Beech Forest. Bustrica is a mountain river with its source below the peak of Shebenik (2'250 m). Beech trees expand to the gravel islands in the narrow river bed and grow in mixture with *Abies alba*, *Pinus peuce*, and *Sorbus cf. aria*. The wooded steep slopes are characterized by lower and deeper valleys of creeks. Along rock walls and boulder fields the natural timberline within the Beech Forest belt is formed. Avalanche tracks, sliding blocks and screes are expressing the tremendous geomorphological dynamic and its impact on the forest structure.

The rich occurrence of the Balkan endemic *Pinus peuce* is to be pointed out as an important plant geographic particularity and a unique feature of this site. *Pinus peuce* develops at the upper timberline and forms within the Beech Forest belt mixed stands with *Fagus sylvatica*.

6. Valuation and conclusions

The three visited sites are characterized by significant remnants of ancient and virgin Beech Forests conserved within their typical landscape coherence. These valuable remnants were conserved due to their topographic (remote location, no access by roads) and historic (isolation by the location in the border zone of the iron curtain) circumstances as well as due to their protection status. If at all, all three sites were not used since decades and they are all characterized by a high degree of integrity.

Montane Beech forests in spatial coherence with river and creek valleys, land- and rockslides, sliding blocks, screes, and avalanche tracks are typical for all three sites. They are all reaching the timberline which had been altered due to livestock grazing in earlier times. In all three sites there is potential for a natural regeneration on formerly forested areas towards the upper montane zone resp. an expansion in higher elevations as an adaption to climate change.



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Although all three sites are characterized by montane Beech Forests along the slopes of mountain rivers and creeks, they are distinguished by specific particularities:

Lumi i Gashit represents Beech Forests on granite and gneiss. Unique feature is the joint occurrence with *Pinus heldreichii* and *Pinus peuce*: *Fagus sylvatica* - *Pinus peuce* forest at the upper timber line and as a complex of *Fagus sylvatica* – *Abies alba* forest with *Pinus heldreichii* on rocky slopes.

Rajca represents the appropriate complex on limestone with a rich limestone flora and a tremendous natural dynamic. With *Pinus peuce*, a remarkable endemic species of the Balkans occurs.

Diaboka Reka represents a pure Beech Forest with some occurrence of *Abies borisii-regis*, an as well remarkable endemit of the Balkans which reaches here the Northern border of its range.

The surroundings of the three valuable Beech Forest sites, which have the function of a buffer zone, are formally designated as protected areas. Currently there is a lack of management and control to guarantee the achievement of the conservation targets.

The three sites are facing **different threats**:

For Lumi i Gashit the current grazing in the surrounding but also within the Strict Nature Reserve is considered to be the strongest threat.

Rajca is currently not facing an imminent threat besides the illegal use of single stems in the boundary area.

Diaboka Reka is threatened severely through a planned river deviation and hydro power plant project in the Mavrovo National Park. The realisation of this plan would lead to a massive impact on landscape and would alter the entire hydrology in the Mavrovo National Park including Diaboka Reka. Eventually the value of the entire National Park would be in question.



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With PPNEA in Albania and MES in Macedonia competent and engaged NGOs are involved in the process. They have established networks with the relevant ministries and institutions and would also play an important role in popularizing the nomination of Lumi i Gashi, Rajca and Dlaboka Reka as World Heritage in their countries. The inclusion of these three sites in the European nomination process would significantly support the protection of the last remnants of ancient and virgin forests in the Southwest of the Balkans and strengthen the public awareness for the value of untouched nature.

7. Recommendations and further steps

The three sites should be presented and discussed on the Expert Workshop „Beech Forests – Joint Natural Heritage of Europe (5)“ in September in Rakhiv (Ukraine).

The ministries involved of Albania and Macedonia should be invited by the German Ministry for Environment to the ministerial meeting in November 4-6, 2013 in Bonn (Germany).

The responsible administrations should be contacted and involved in the further process.

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Annexes:

- 1 – General map of the travel route
- 2 – Topographic maps of the visited areas (1:50 000)
- 3 – Maps with boundaries and zonation of the existing PA
- 4 – Topographic maps with drafts for the nomination areas
- 5 – Lists of characteristic forest types and species
- 6 – Photographic impressions

Annexes as separate documents.

