Personal Impressions of a Forest Excursion to Romania

Between virgin forest wilderness, rural idyll and forest destruction

May 16-23, 2016

By
Hans D. Knapp

July 2016

Fig. 1: **Forest wilderness**, virgin forest of Sinca
(all pictures by Hans D. Knapp)

Fig. 2: **Rural idyll**, Viscri in Transsylvania

Fig. 3: **Forest destruction**, clear cuts in Fagaras Mountains, Arpasu Valley

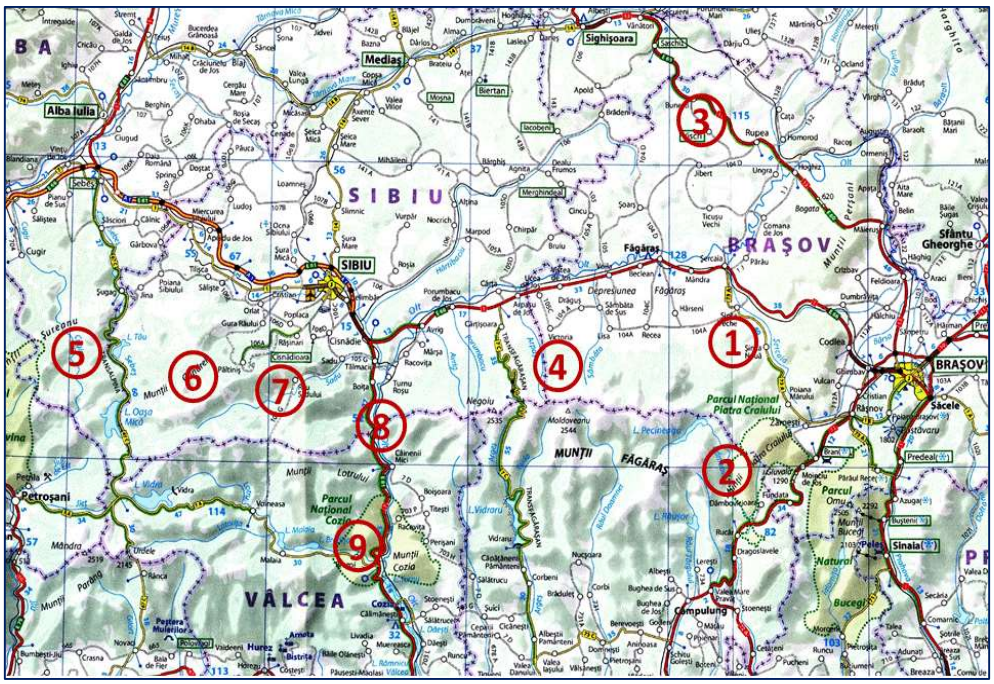


Fig. 4**: Location of the visited sites**. 1 – Sinca forest, 2 – Piatra Craiului National Park, 3 – Viscri forest, 4 – Arpasu Valley in Fagaras Mountains, 5 – Mt. Sureanu, 6 – Mt. Cindrel, 7 Sadu Valley, 8 – Olt Valley, 9 – Cozia National Park

1. Background

Romania has the largest stock of beech forests in Europe. It contributes the largest part to the serial transnational nomination of European beech forests to the World Heritage List, submitted by Austria in January 2016 to UNESCO as extension of the Primeval Beech Forests of the Carpathians and Ancient Beech Forests of Germany.

On the other hand reports about forest destruction cause for concern about the remaining virgin forests of the Romanian Carpathians. For this reason the Succow Foundation in cooperation with EuroNatur Foundation and with financial support by the Federal Agency for Nature Conservation (BfN) in March 2016 invited a small group of forest experts from Romania and Germany to a meeting at the International Academy for Nature Conservation Isle of Vilm.

The objectives of the meeting were:
1) to collect information about the current situation and ongoing changes of old-growth forests in the Romanian Carpathians,
2) to discuss the outcome of the Forest Forum in Bucarest and the NGO meeting about virgin forest protection in Vienna in February 2016, and
3) to look for synergies of the several initiatives for an effective protection of the remaining primeval and old-growth forests in the Carpathians.

With this meeting the organizers want to support initiatives and measures for protection of the old-growth forests of the Carpathians as an important part of the joint natural heritage of Europe. The outcome is formulated in the draft minutes (see below).

As follow up to this meeting I visited few places in the Carpathians and in Transsilvania to take personal experience about the situation of forests in this country of the European Union. The excursions to Sinca forest, Piatra Craiului and Viscri forest have been organized by Dietmar Gross and Prof. Dr. Rainer Luick. Further participants from Germany were Sabine Korn-Luick, Hermann Graf Hatzfeldt and Dr. Lutz Fähser. In this three forest sites (1-3) we met several Romanian colleagues from administrations and NGO.

I am very grateful for the opportunity to visit different places and to discuss divers questions with my colleagues. The impressions are very different: I am fascinated by realy great virgin and quasi virgin forests and forest landscapes of high integrity as well as by idyllic cultural landscapes in rural areas; but I am frightened about the extension of timber exploitation. My personal impressions of the visited sites shall be documented by the following pictures and comments.

Draft: Minutes from the

Expert Meeting „ Protection of Old-Growth-Forests and Sustainable Forest Management in the Romanian Carpathians" at the International Academy for Nature Conservation

Isle of Vilm/Germany, March 21-24, 2016

Participants from Romania, Austria and Germany met on the Isle of Vilm, organized by the Succow Foundation and the EuroNatur Foundation with financial support from the German Federal Agency for Nature Conservation(BfN).

Expectations for the **Outcome of the Meeting** were directed to

- further and better Protection of Old-Growth Forests, Quasi Virgin Forests and Virgin Forests
- a sustainable, eco-system based Forest Management in all productive or commercial forests.

The **Problem Analysis** resulted in manifold reasons out of which the following seem to be serious:

Very poor communication regarding the importance of the VF and QVF, the legal provisions about them and the immediate need for protection;

- corruption at all levels
- continuing illegal logging and overcutting
- cuttings even in old growth, quasi virgin and virgin forests
- bad management practices in managed forests (clear cuts, shelter-wood system, short rotation periods, etc.)
- weak implementation of the existing Forest Law and its Secondary Legislation.

Activities for **Problem Solving** should focus on:

- improvement of the protection and the financial/institutional independency of the National Parks' Administrations;
- identification, mapping and protection of all Old Growth Forests, Quasi Virgin Forests and Virgin Forests;
- development and application of concepts for Sustainable Forest Management (SFM) which are in line with the criteria and indicators of the Convention on Biological Diversity (CBD) and the needs for adaptation and mitigation to Climate Change;
- recognition and involvement of the existing Forest and Ecological Research Institutions into the development of Forest Management Concepts and Plans and its Control

Projects and Master Plans are to be directed to:

- the support from the EU and single other countries like Germany especially with the aim of World Heritage Nomination of Virgin Beech Forests and within the Deforestation and Forest Degradation Program of the EU;
- the enforcement of the existing Forest Code and the Anti Corruption Activities;
- the cooperation of many NGO e.g. for a “National Catalogue of Romanian Virgin Forests” to push/ support for the implementation of the ministerial order and to ensure that the Catalogue will be completed as soon as possible and as complete as possible. - a Moratorium for all interventions in Virgin and Old Growth Forests until the Register is completed and enforced;
- the Moratorium should be based on an immediate Mapping of all potential Virgin and Quasi Virgin Forests with means of remote sensing and field checks;
- compensations for private forest owners who could become restricted in forest use;
- efficient structures and competences within RomSilva and Forest Guards;
- vocational training and exchange with other European Countries in Europe in the field of Sustainable Forest Management;

Immediate **Practical Support and Joint Projects** seem to be possible:

- with EuroNatur, WWF and Greenpeace to ensure a rapid and comprehensive Mapping and Registration of the remaining Virgin and Qvasivirgin Forests (Catalogue) and additionally investigate and publish violations of the existing Ministerial Order from 3397/2012 on the Protection of Virgin and Quasi Virgin Forests; EuroNatur will focus on an immediate mapping of all potential Virgin and Quasi Virgin Forests with means of remote sensing;
- with Greenpeace and Succow Foundation to organize and conduct exchange and instruction in Sustainable Forest Management with German Forest Experts;
- with WWF, Greenpeace and other NGO in Romania to discuss and finally agree with RomSilva in a modern Sustainable Forest Management Concept and implementation, based on the FSC-Standard , the “Vision for the Romanian Forests” and the “Declaration”, both presented resp. signed on the Forest Forum in February 2016.

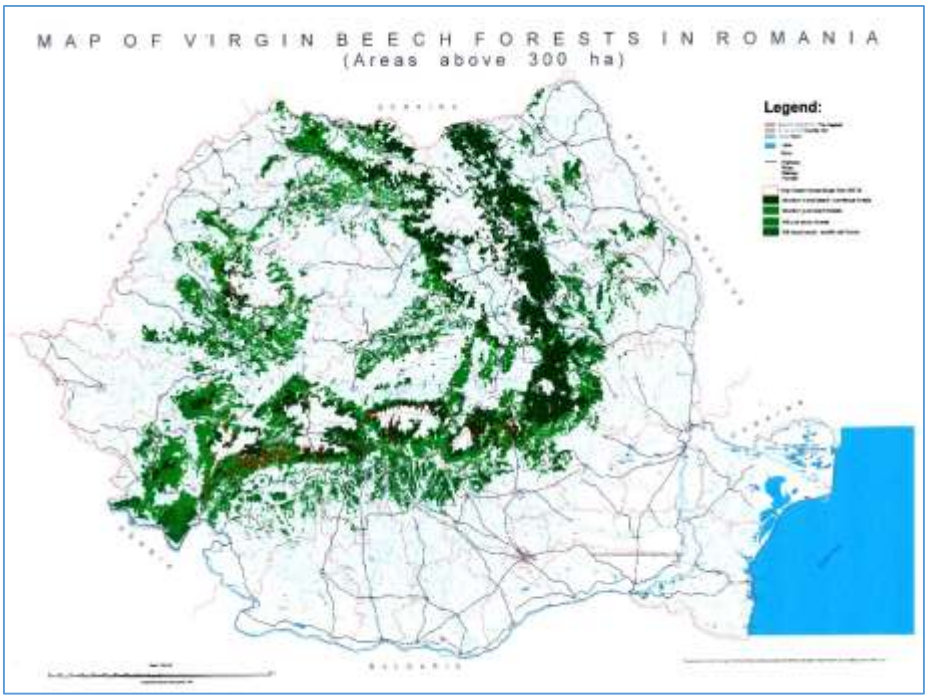


Fig. 5: Distribution of Beech forests (green) and Virgin Beech forests (red) in Romania. Badea & Biris (2012), Annex 50.

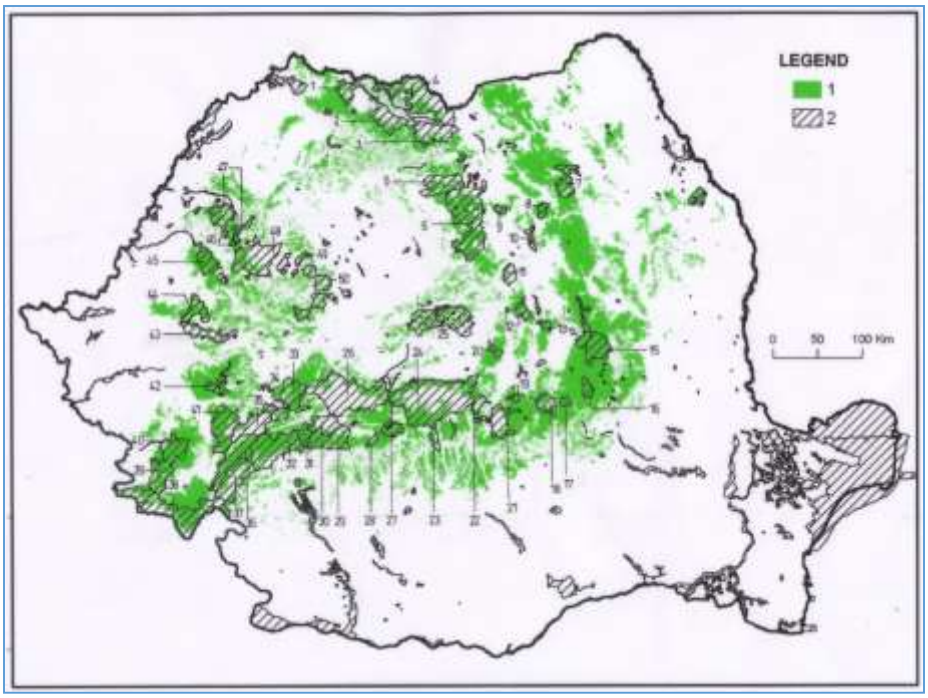


Fig. 6: Distribution of Beech forests and NATURA 2000 in Romania. Stoiculescu (2007), p. 61.

Forests in Romania (Biris & Veen 2005)

Total area: 6.367 Mio ha (26.7% of the territory)

Ownership 2003:	public state forests	74.5%
	local public forests	11 %
	private forests	14 %
	forests of churches and educational organizations	0.5 %

The process of privatisation is not finished yet. The state owned forests are reduced to 52.2% until 2012 (Zotta et al. 2012).

Tree species (Zotta et al. 2012):

Beech	31.5%
Oak	18 %
Other hardwood	15.7%
Softwood	4.9 %
Conifers	29.9%

Virgin forests: total area 218,492.2 ha (5% of forest cover;
1974 it was 10-12%)
94% of virgin forests relate to *protective* forests, but 75% of virgin forests are not located in *Protected Areas.*
16% are situated in national parks and nature parks,
9% in forest reserves

Virgin forest types (Biris & Veen 2005, old data):

1 – *Picea abies, Larix decidua, Pinus cembra, Pinus sylvestris* pure and mixed forests	46,933 ha (20% of virgin forests)
2 – *Abies alba* pure and mixed forests	46,645 ha (20% of virgin forests)
3 – *Fagus sylvatica* pure and mixed forests in mountaine areas	92,437 ha (45% of virgin forests)
4 – *Fagus sylvatica* pure and mixed forests in hilly areas	20,867 ha (<10%)

2. Experiences in the several stations

2.1 Sinca forest (location see fig. 4)

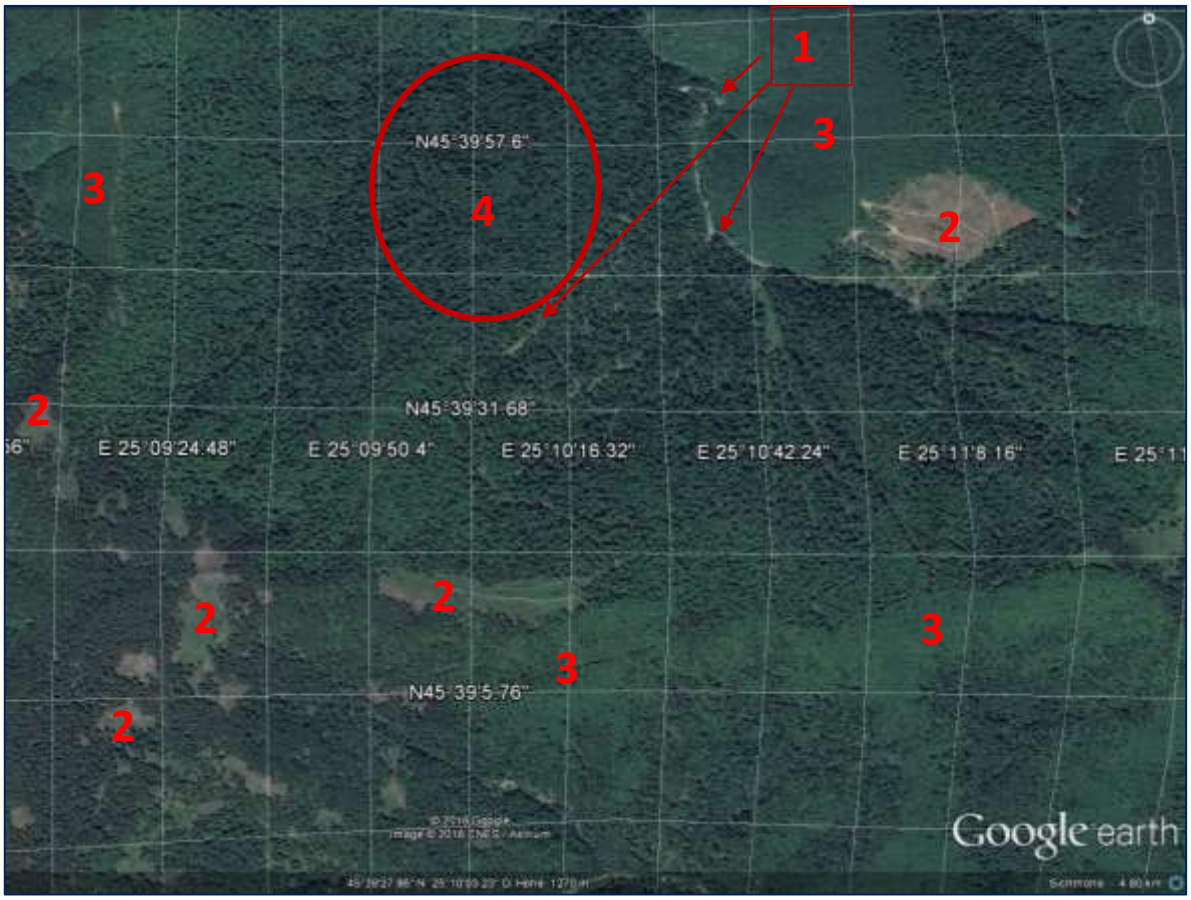


Fig. 7: Satellite image of Sinca forest (all satellite images by Google earth)

Large closed forest area (17,000 ha) in the Eastern part of the Site of Community Interest (SCI) Muntii Fagaras (NATURA 2000).
The municipality owned forest was planned for felling. WWF identified the stock 2008 as virgin forest and stopped the felling plan in cooperation with the responsible forest administration. A stock of 338.24 ha is nominated to the World Heritage List as component part of the Romanian contribution to the extension nomination 2016. The buffer zone has a size of 445.76 ha.
The virgin forest and the buffer zone are surrounded by managed forests. The forest administration understands the buffer zone as commercial forest.
The satellite image shows forest roads (1), few clear cuttings (2) and young stocks after clearcutting (3) close to the remaining virgin forest (4).

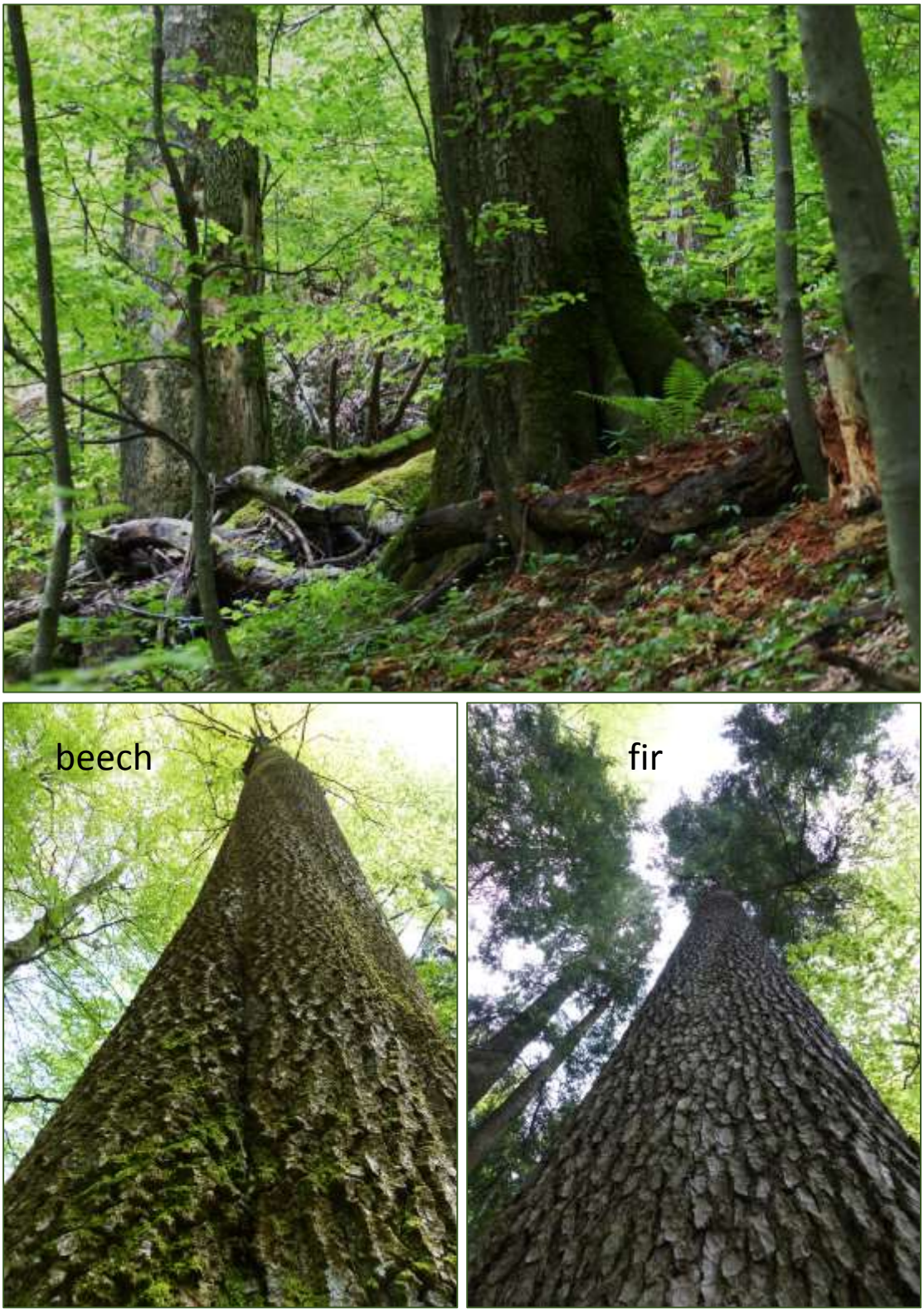


Fig. 8 a-c: The Sinca virgin forest is a mountain mixed forest of beech and fir with trees of huge dimensions in 900-1,300m a.s.l. The oldest *Fagus sylvatica* trees are 480 years, the highest beech is 58m, the highest fir 62,5m, the largest diameter of fir 1,45m.

Fig. 9a-f: Sinca virgin forest. A fascinating mountain forest stock of high integrity, diverse structures with all stages of regeneration cycle and all age classes of both tree species. High productivity and high volume of biomass, total 1,588 m³/ha (27% of that is deadwood).

Fig. 10: Sinca forest. The high value as virgin forest was not known in the forest administration. Forest road construction is the beginning of the end of virgin forests. Fellings from winter/spring 2016 and roads very close to the nominated virgin forest stock.

The protection status is unclear, but all these forests are located in the NATURA 2000 Fagaras Mountains. The trees of managed beech forests have to log with 110 years in three steps within 10 -15 years in shelter-wood system.

2.2 Piatra Craiului National Park

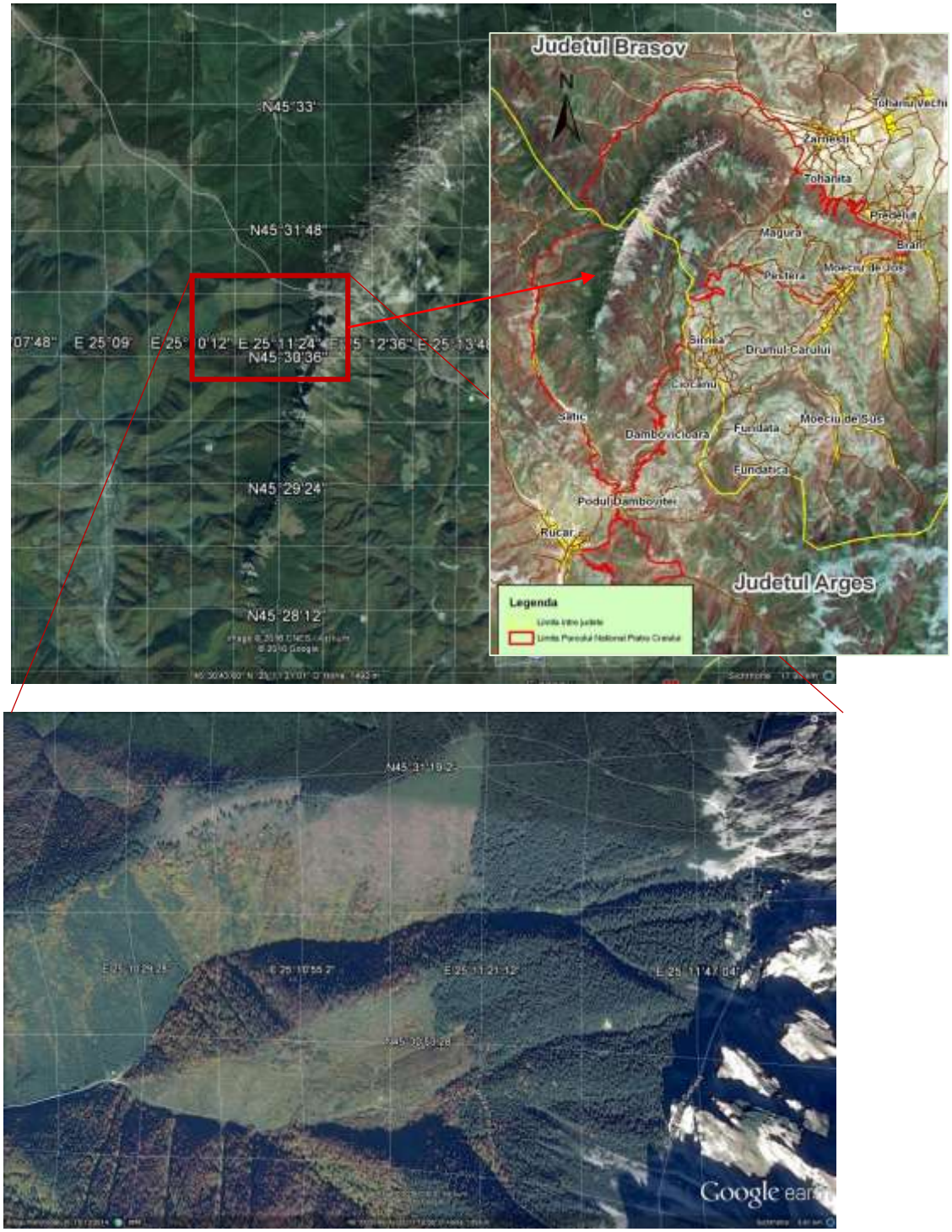


Fig. 11a-c: The Piatra Craiului National Park was designated 1990, it covers 14,800ha. The rocky alpine ridge is 25 km long, the highest peak is 2,238 m. The satellite image shows large clearcuttings within the national park. Source of the map (http://pcrai.ro/images/harta03.jpg).

Fig. 12a-b: Piatra Craiului National Park. a) Ridge of Piatra Craiului from West. In the middle ground old-growth mountain mixed forest (*Fagus* and *Abies*). In the foreground left planted spruce (*Picea abies*) after final felling of shelter-wood system, spontaneous pioneer stage of *Betula pendula* and *Salix caprea*. – b) View to West (Jezeri Mountains) from the same place. Right side remaining old-growth forest (*Abies* and *Fagus*), in the foreground pioneer stage of *Betula* and *Salix* in spruce plantation after final felling.

Fig. 13a-f: Remaining old-growth mountaine mixed forests at the Northern slope of secondary ridge. 2,400 ha of the National Park are owned by the Foundation Conservation Carpathia (http://www.carpathia.org/en/) now, and without any interventions in succession to wilderness.

Fig. 14a-f: a) The old growth forests at the Southern hillside of secondary ridge within the National Park were logged in 2,000 by the forest administration against the vote of the national park administration. The deforested slope was planted with spruce. Now it is in succession *with Betula pendula, Salix caprea, Sorbus aucuparia.* – b-f) The mountain slopes between Piatra Craiului and Jezeri Mountains are deforested in large parts. The Foundation Conservation Carpathia bought 17,000ha including degraded forests and initiated a project for forest and soil regeneration in that area.

2.3 Viscri forest

Fig. 15a-b: Cultural landscape North of Viscri in Transsilvania. The hills are covered by mixed deciduous forests (oak, hornbeam, lime, beech). The image shows traditional pasture woodland (1), 120 years old oak forest (2), second phase of femel system (group-selection system) (3), final phase of femel system (4).

Fig. 16a-f: a-d) Traditional pasture woodland in complex with continental grassland of high biological diversity. – e-f) 120 years old mixed oak wood with *Quercus robur, Carpinus betulus, Fagus sylvatica, Acer campestre*, owned by the municipality, ready for femel system.

Fig. 17a-f: Viscri municipality forest. Final stage of femel system. Oak forests are managed in age of 120 years by femel system. Within 10-15 years all old trees were felled. The result is like a clearcutting. The timber is mainly used as fuel.

2.4 Arpasu Valley in Fagaras Mountains

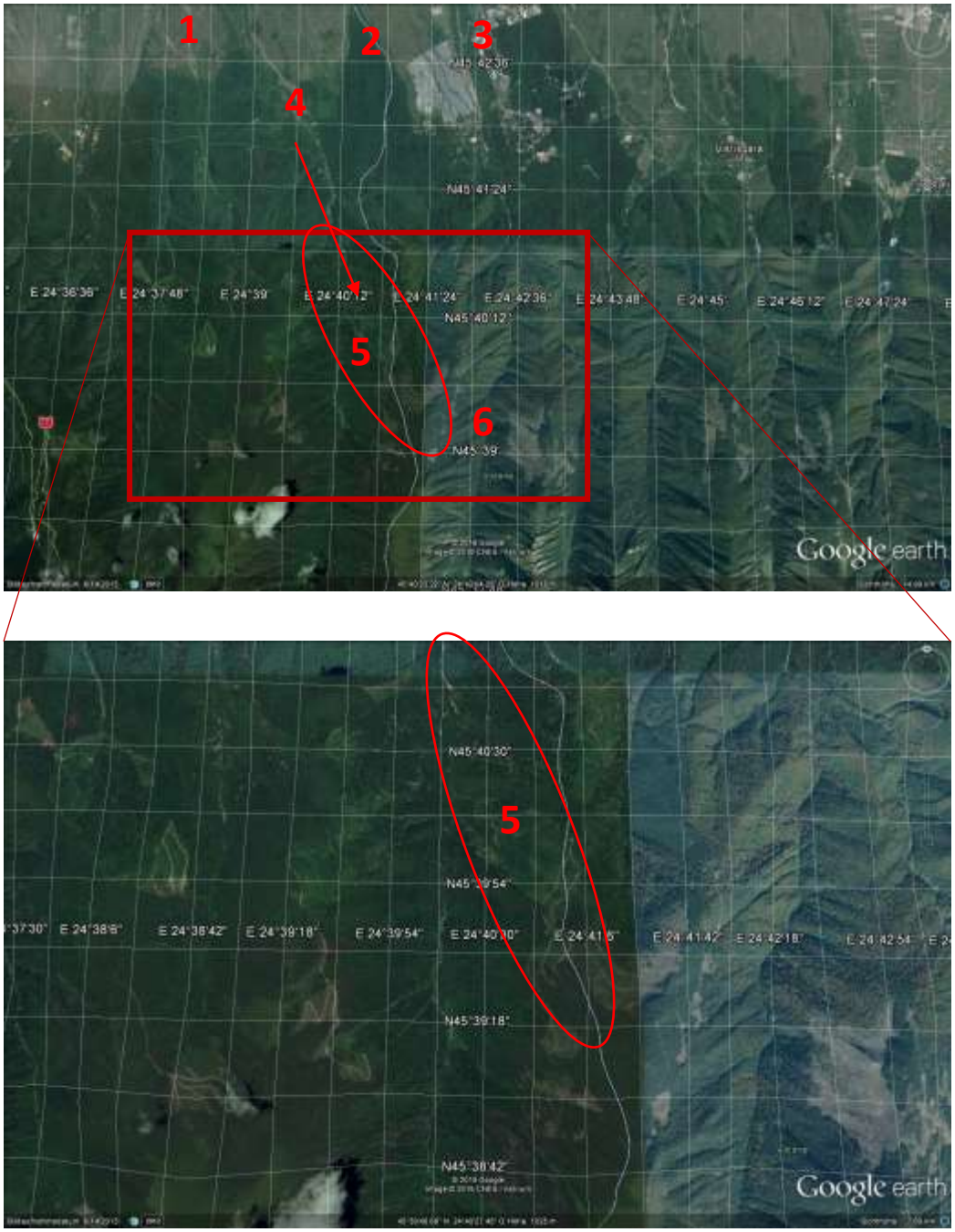


Fig. 18a-b: Northern slope of the Fagaras Mountains (NATURA 2000), South of Arpasu de Sus (1) and Victoria (3) at the border between Sibiu and Brasov districts (2). (4) Arpasu Mare (stream), (4) visited area, (5) secondary ridge Muchia Tarata with Vf. Boldau, 1679m.

Fig. 19a-f: a-b) View in the upper valley of Arpasu Mare stream to the main ridge of Fagaras Mountains. Old-growth mixed mountain forest of beech, fir and spruce; c-e) Clearcuttings of spruce forests at Vf. Boldanu, and shelter-wood system in old-growth beech forests; f) clearcuttings at the Eastern hillside of Bunchioaia.

Fig. 20a-g: a-c) Forest road in the Arpasu Mare valley, destroyed by timber transport; d-g) timber transport roads across old-growth beech-fir-forest, partly up to 5m deep and 5m broad, erosion of soil approximately up to 10,000 m³/km.

Fig. 21a-f: Images of forest destruction, timber transportation roads and clearcuttings in old-growth beech (fir) forests and spruce forests. – The Fagaras Mountains including the mountain forests are Site of Community Interest (SCI, NATURA 2000).

2.5 Mt. Sureanu

Fig. 22: Muntii Sureanu SW of Sugag, W of Lake Tau (1), the yellow line is the transalpina road. Large parts of the area are deforested (grey). (2) The inspected area.

Fig. 23: Huge clearcuttings (1) West of the Lake Oasa Mica (2); (3) Monastery.

Fig. 24a-f: a) Remnant of natural beech-fir mountain mixed forests W of Lake Tau; b) forest regeneration at former clearcutting; c-f) huge clearcuttings in (artifical) spruce forests.

Fig. 25a-e: Large scale forest destruction; d+e) 360° panorama image shows a huge clearcutting of spruce plantations.

2.6 Mt. Cindrel

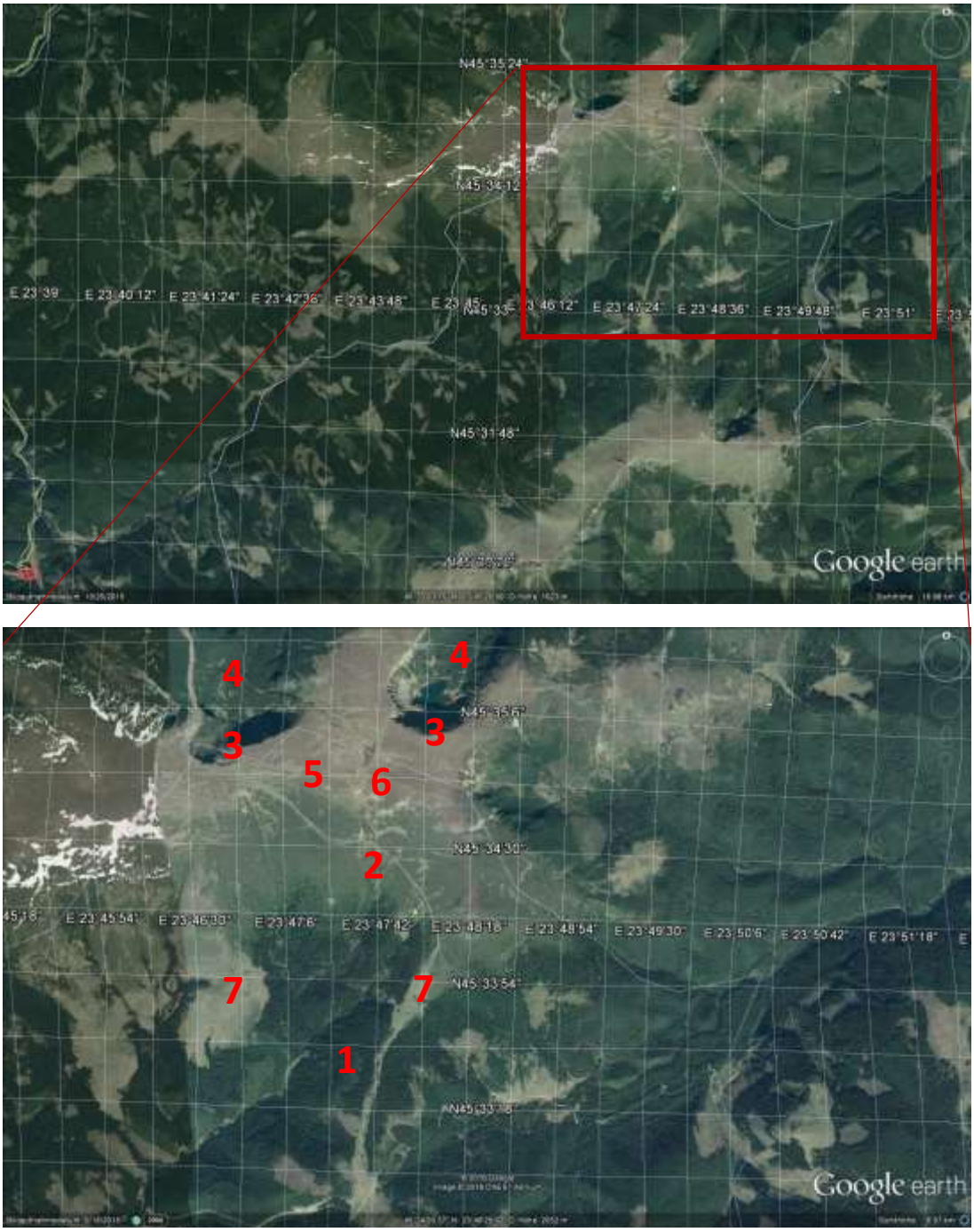
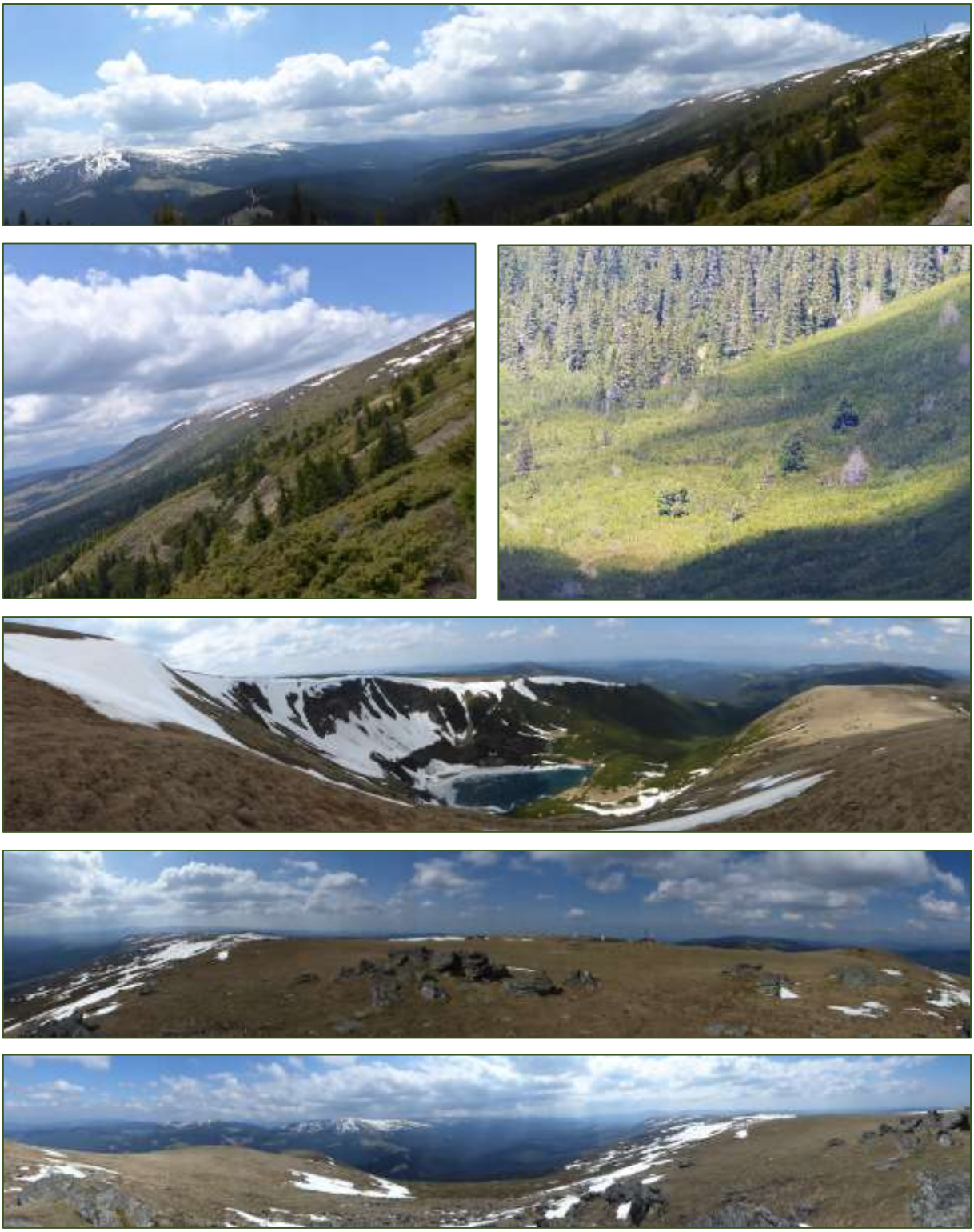


Fig. 26a-b: Muntii Cindrel (SW Sibiu. (1) Mountain spruce forest (up to 1,700m forest line), (2) former *Pinus mugo* subalpine belt, degraded to *Juniperus sibiricus-Rhododendron myrtifolia-Bruckenthalia spiculifolia* dwarf shrub-land, (3) glacier kettle with step rocks and moraine lake, (4) *Pinus mugo* shrubland with single *Pinus cembra* trees, (5) alpine grassland, (6) summit (2,244m), (8) mountaine pasture grassland; see fig. 27-28.



Fiug. 27a-f: a-b) Southern slope of Mt. Cindrel, forest line, view to SW, c) glacier kettle with *Pinus mugo* and *Pinus cembra,* forest line formed by *Picea abies,* d) glacier kettle with lake, e) summit plateau, 2,244m, f) view to East

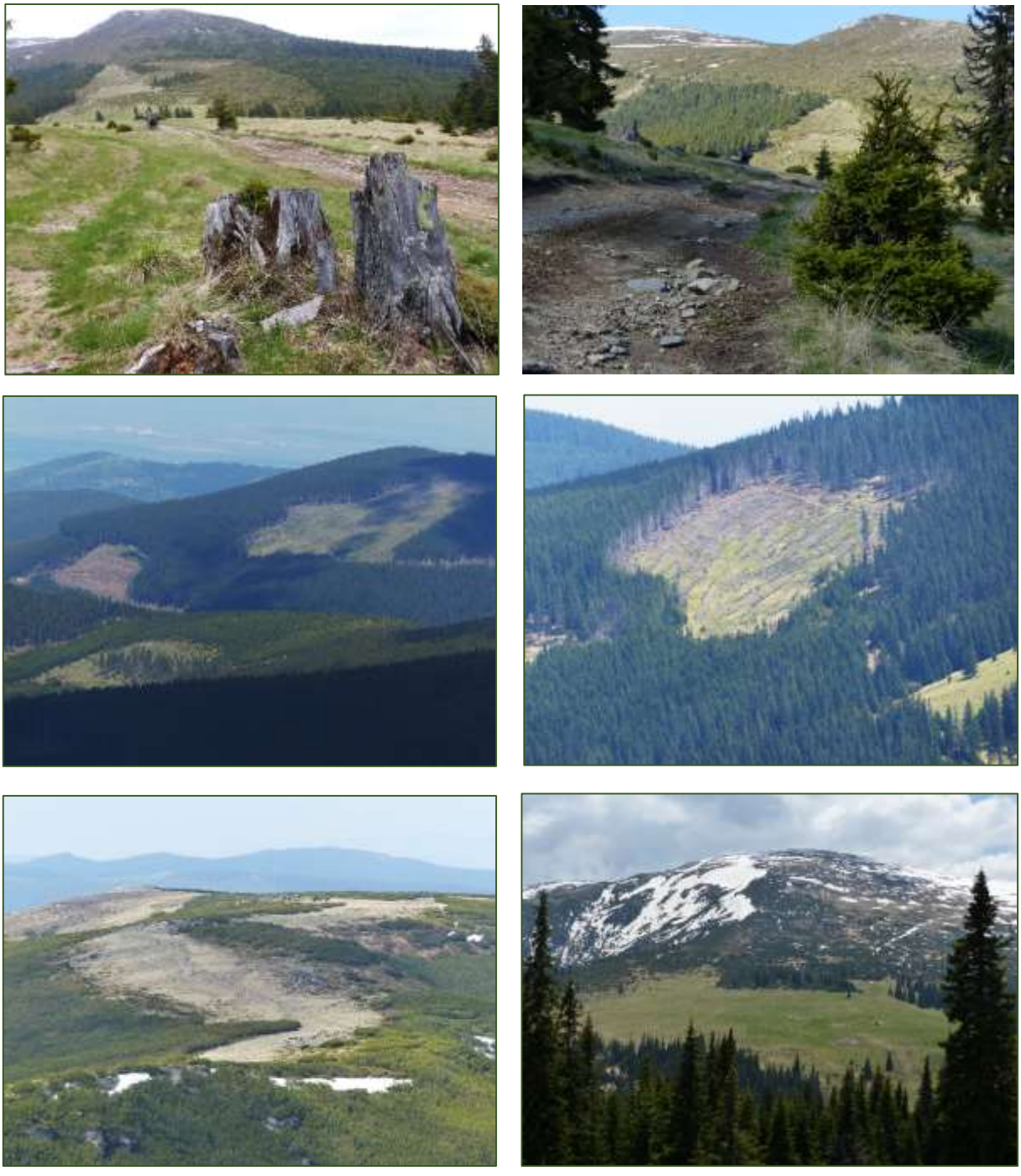


Fig. 28: a-b, f) Mountain pasture grassland, c-d) current clearcuttings in spruce forests, e) destruction of *Pinus mugo* subalpine shrub-land

2.7 Sadu Valley

Fig. 29a-c: Deforested mountain slopes in the Sadu river valley South of Sibiu

2.8 Olt Valley

Fig. 30a-c: The valley of Olt River through the Southern Carpathians. The slopes along the vallley are covered by closed old-growth beech forests. Large areas East side the valley looks like of high integrity (1), but there are first large clearcuttings (2); West of the valley the mountain slopes are degradet by many cutting areas (3). – The large closed beech forest stock (1) should be protected as a large protected area, before it would be destroyed.

2.9 Cozia National Park

Fig. 31a-c: The Cozia National Park was designated 2,000 and covered 17,000 ha of mountain area. It is one of the most scenic landscapes in the Carpathians. The satellite image shows the valley of the Lotrisor river (2), which contributes to the Olt river (1). The rocky slopes are covered by thermophilic forests (3), (b) in complex with beech forests. 3,389.16 ha of the Cozia National Park in two parts are a component cluster of the World Heritage nomination. Lotrisor is one of the two parts, surrounded by a buffer zone of 2,408.83 ha,

Fig. 32a-d: a) Thermophilic mixed deciduous forests at Southern slopes with *Tilia tomentosa,* b) river gorge of Lotrisor with mixed deciduous forests of *Fagus sylvatica, Acer pseudoplatanus, A. platanoides, Ulmus glabra, Fraxinus excelsior, Tilia platyphyllos, Carpinus betulus;* c-d) steep rocks with *Pinus sylvestris* woodland.

Fig. 33: The Lotrisor waterfall was the last and wonderful impression of the journey. The great and fascinating nature of Cozia National Park demonstrates, that Romania is able to save its natural heritage of European and global significance.

3. Conclusions

1 – The forest area in Romania is reduced in several historical phases during the last two centuries up to 26.7% of the territory. The remaining stock is mostly changed in structure and composition by traditional landuse practics like forest pasture, change of natural forests in plantations, age classes system etc.

2 – Despite this changes a large stock of old-growth and virgin forests of European importance and high conservation value remained in remote areas of the Carpathians, which are the main forest region today. Their occur the largest stock of beech and mixed beech forests of Europe, but also natural spruce forests in the upper mountain belt up to the forest line.

3 – Forest roads are a basic prerequisite for timber cuts in old-growth forests. The consgtruction of forest roads is the beginning of the end of virgin and old-growth forests.

4 – Many of the remaining virgin and old-growth forests have no national conservation status. But also in designated protected areas, e.g. Piatra Craiului National Park, old-growth forests were destroyed by legal and illegal felling. The NATRA 2000 status has nothing protection effect, it is a farce.

5 – Legal and illegal interventions in virgin and old-growth forests have the same consequences: old-growth forests are damaged for many decades, virgin forests are destroyed forever.

6 – As foresters explained, forest law and regulations, like management plans, require the use of stocks older 120 years in shelter-wood system (beech), femel system (oak), or clearcuttings (spruce). In consequence all old trees would be lost by regular and legal forest use.

7 – Since the accession of Romania to the European Union 2007, and the opening of the national economy to the global market, the use pressure at forests is increasing dramatically. Timber trade (legal as well illegal) is a profitable business with high potential for forest degradation. The ongoing practice could be described as non-transparent and ill-fated alliance of complicated structures and responsibilities, personal interests, corrupt individuals, foreign investors and timber companies joint by profit greed. It could be called „the system of Dracula“.

8 - -Clearcuttings in coniferous forests often are justified and legalized as so called sanitary cuttings or protection measures because of barc beetle infection.

9 – The currently practised forest management destroyes natural and natural like forest structures, eliminates old-growth stocks, and causes harm the ecosystem functions of forests (balance of water supply, soil protection, carbon sequestration).

10 – The management of commercial forests pursuant ecological criteria (e.g. Forest Europe or the Greenpeace vision for the Romanian forests) requires resolute measures by the owners and the responsible state bodies. It should be supported by NGO and the civil society.

11 – The nomination of 8 component parts/clusters with total size of nearly 24,000 ha, surrounded by 64,454 ha buffer zone, is a real great contribution by Romania to the extension nomination of European beech forests to the UNESCO World Heritage List. It confirms the outstanding value and importance of the Romanian Carpathians for the protection of temperate deciduous forests worldwide.

12 – However, the World Heritage nomination of the selected virgin beech forests would be a farce, if virgin and old-growth forests outside of the nominated areas would be destroyed by femel felling, shelter-wood system and clearcuttings, which dominate the current management of commercial forests.

13 – The salvation of the old-growth forests of the Romanian Carpathians as an important part of the joint European natural heritage, and a significant contribution to the global natural values requires resolute action at local, national and European levels. It requires transnational cooperation because of the international importance of the forests as well as because of the international connected structures of forest destruction. It is a mutual challenge for the civil society, NGO, administrations and policy to combat destructive practics and to save the natural treasure of virgin and old-growth forests of Romania.

14 – The remaining virgin and old-growth forests of the Romanian Carpathians are too valuable to be sawn into boards or to be shredded for pellets.

References

(1) BADEA, O. & BIRIS I.-A. (May 2012): Ancient beech forests of Romania – the preliminary identification of potential nomination areas for the World Heritage List. ICAS, Bucharest (n.p.)

(2) BIRIS, I.-A. & VEEN, P. (ed.) (2005): Inventory and strategy for sustainable management and protection of virgin forests in Romania. (PIN-MATRA/2001/018). ICAS and KNNV, 61. p.

(3) BUCUR, C. (December 2012): Save Romania's virgin forests. WWF, presentation. Sofia, 13. P.

(4) Environmental Investigation Agency (2015): Stealing the last forest: Austria's largest timber company, land rights, and corruption in Romania. EIA, Washington D.C., 44 p.

(5) Expert Meeting (2016): Draft Minutes from the Expert Meeting "Protection of Old-Growth Forests and Sustainable Management in the Romanian Carpathians" at the International Academy for Nature Conservation. Isle of Vilm/Germany, March 21-24, 2016.

(6) Greenpeace (February 2016): Greenpeace vision for the Romanian forests. 12 p.

(7) IUCN (2011): IUCN Evaluations of Nominations of Natural and Mixed Properties to the World Heritage List. WHC-11/35.COM/INF.8B2.

(8) Kirchmeir, H. & Kovarovics, A. (Eds.) (2016): Nomination Dossier to the UNESCO for the Inscription on the World Heritage List. "Primeval Beech Forests of the Carpathians and Other Regions of Europe" as extension to the existing Natural World Heritage Site "Primeval Beech Forests of the Carpathians and the Ancient Beech Forests of Germany (1133bis). Klagenfurt and Vienna, Austria. 417 p. + Annexes.

(9) KNAPP, H. D. et al. (2008): Naturerbe Buchenwälder. Situationsanalyse und Handlungserfordernisse. BfN-Skripten 240, Bonn, 49 S.

(10) KNORN, J. et al. (2012): Continued loss of temperate old-growth forests in the Romanian Carpathians despite an increasing protected area network. Environmental Conservation 40(2): 182-193.

(11) KLAWITTER, N. (2015): Kahlschlag im Urwald. DERSPIEGEL 19/2015, S. 80-82.

(12) KREMM, W. (2016): Neuerliche Attacke auf Urwälder. Allgemeine Zeitung für Rumänien, Mittwoch, 23. März 2016.

(13) PEARCE, F. (2015): Up in flames. How biomass burning wrecks Europe's forests. Case study report. Fern, 16 p.

(14) STOICULESCU, C. D. (2007): Buchenwälder in Rumänien. In: KNAPP, H. D. & SPANGENBERG, A. (Red.), Europäische Buchenwaldinitiative. BfN-Skripten 222, Bonn, S. 41-76.

(15) STOICULESCU, C. D. (2011): Rumäniens Buchenwälder – Bedeutende Komponente des Europäischen Naturerbes unter dem Einfluss des Klimawandels. In: KNAPP, H. D. & FICHTNER, A. (Eds.), Beech Forests – Joint Natural Heritage of Europe. BfN-Skripten 297, Bonn.S. 117-135.

(16) STOICULESCU, C. D. (2013): The Primeval Beech Forests in Romania in European Context under the Influence of Climate Changes. Bucuresti, 416 p. (Romanian).

(17) Veen, P. et al. (2010): Virgin forests in Romania and Bulgaria: result of two national inventory projects and their implications for protection. Biodiversity Conservation 19, p. 1805-1819.

(18) ZOTTA, M., LUNGU, C. & STOICULESCU, C. (2012): Primeval beech forests in the Romanian Carpathians – proposed World Heritage Site. In: KNAPP, H. D. & FICHTNER, A. (Eds.), Beech Forests – Joint Natural Heritage of Europe (2). BfN-Skripten 327, Bonn, p. 193-196.

Prof. Dr. Hans D. Knapp

D-18581 Putbus-Kasnevitz
Dorfstr. 37
Germany
hannes.knapp@t-online.de

The author in Sinca virgin forest
Foto: Dr. Lutz Fähser