

Preface of the Editors

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Introduction

You hold in hands the proceedings of the second international conference on sandstone landscapes that took place in Vianden (Luxembourg) from May 25 to May 28 2005. The conference entitled "*Sandstone landscapes in Europe - Past, present and future*" brought together a range of scientists, experts, teachers and students from all over Europe.

This international sandstone symposium followed the initial conference "*Sandstone Landscapes: Diversity, Ecology and Conservation*" that took place in Doubice in Saxonian-Bohemian Switzerland, Czech Republic in September 2002 (Härtel *et al.* 2002).

The proposal for the follow-up symposium was brought to Luxembourg by a Luxembourg participant who attended the Czech symposium.

The "*Groupe d'études ayant pour objet la conservation du patrimoine naturel de la Petite-Suisse luxembourgeoise*", an advisory group created by the Luxembourg Government to promote the conservation of remarkable natural sites in the Luxembourg sandstone area, the Müllerthal, also known as the "*Petite-Suisse luxembourgeoise*", supported the initiative to organize the next sandstone symposium in Luxembourg.

So the idea made its way, a partnership was set up and the symposium was scheduled for May 2005.

Organization

Organizations and persons are listed in alphabetical order.

Main organizers

- Administration des eaux et forêts (Water and forestry administration)

- Musée national d'histoire naturelle (National Museum of Natural History)
- Musée national d'histoire et d'art (National Museum of History and Art)
- Société des naturalistes luxembourgeois (Luxembourg Naturalist Society)

Partner organizations

- Amis de la géologie, de la minéralogie et de la paléontologie du Luxembourg (Friends of geology, mineralogy and palaeontology in Luxembourg)
- Association des géologues luxembourgeois (Luxembourg geologists association)
- Fondation Hëllef fir d'Natur (Help for nature foundation)
- LAG LEADER+ Mullerthal (Local action group Leader +)
- NATURA - Ligue luxembourgeoise pour la protection de la nature et de l'environnement (Luxembourg league for the environment and nature conservation)
- Naturerkundungsstation Teufelsschlucht (Nature visitor center)
- Oeko-Zenter Lëtzebuerg (Environmental and nature conservation foundation)
- Service géologique du Luxembourg (Geological survey of Luxembourg)
- Société préhistorique luxembourgeoise (Luxembourg prehistorical society)

Conference coordination and secretariate

- Christian Ries, curator at the National Museum of Natural History, president of the Luxembourg Naturalist Society

Conference scientific committee

- Guy Colling, researcher at the National Museum of Natural History
- Alain Faber, curator at the National Museum of Natural History
- Yves Krippel, research associate of the National Museum of Natural History
- Christian Ries, curator at the National Museum of Natural History, president of the Luxembourg Naturalist Society
- Jean-Marie Sinner, head of Diekirch forestry district, Water and Forests Administration
- Fernand Spier, president of the Luxembourg Prehistory Society
- Norbert Stomp, honorary director of the National Museum of Natural History
- François Valotteau, researcher at the National Museum of History and Art
- Jean Werner, president of the Study group for the preservation of the natural heritage of Luxembourg Little Switzerland

Conference organizing committee

- Georges Bechet, director of the National Museum of Natural History
- Marie-Paule Kremer, Ministry of Environment
- Frantz-Charles Muller, president of Foundation 'Hëllef fir d'Natur' and NATURA
- Christian Ries, curator at the National Museum of Natural History, president of the Luxembourg Naturalist Society
- Jean-Marie Sinner, head of Diekirch forestry district, Water and Forests Administration
- François Valotteau, researcher at the National Museum of History and Art

Background and aims of the conference

Sandstone regions are scattered all over Europe. Even if different in age and composition, they all show a great number of similitudes. Distinct geomorphologic features often create strong gradients in mesoclimatic conditions and generate high levels of natural disturbance and resulting patch dynamics. In sandstone regions these dynamic geomorphologic processes occur at rates unseen in the surroundings. The special climatic or microclimatic conditions in sandstone regions induce a mosaic of biotopes hosting specific flora

and fauna. The occurring species are often of relict nature and a testimony of climatic conditions and vegetation in place earlier in this interglacial.

Sandstone areas are not only a phenomenon of geological and biological interest. They are well known for their prehistoric past, and rock shelters provided excellent opportunities for human settlements. Later, the outstanding landscapes of sandstone regions have attracted human attention, particularly since the Romantic period. It was the beginning of tourism, a phenomenon that nowadays often causes irreversible problems in these fragile environments.

In order to preserve the invaluable landscapes and ecosystems, associated to sandstone landscapes, there is a strong need for research, nature and landscape conservation with concrete management plans, environmental friendly tourism, etc.

The first sandstone conference in Doubice, Czech Republic, revealed that the uniqueness of geomorphologic and ecological processes in sandstone regions calls for a much more intimate link between geomorphology, climatology, landscape history and biology/ecology, etc. and initiated the so-called 'sandstone community', a database of people interested in research and conservation of sandstone landscapes. More information can be found on the 'Sandstone Landscapes' website www.sandstones.org, providing information about the research and events on sandstone landscapes, especially in Europe (Härtel 2005).

This second international conference on sandstone tried to carry on the effort devoted to bridging all the concerned disciplines. The organizers intended that this conference would - amongst others - identify which general research topics can use sandstone regions as particularly suitable model systems; permit the comparison of different sandstone regions in Europe and point out similarities; establish new contacts and further collaboration among people interested in sandstone regions; address conservation issues specific for sandstone regions (tourism, rock climbing, restoration management); etc.

Scientific programme

The scientific programme consisted of plenary lectures, poster sessions, discussions and excursions. Four major topics were covered by 26 oral communications and 16 posters:

1. Evolution of sandstone landscapes: geology and geomorphology

Sandstone is a quite common rock type, which characterizes different regions and yet each

sandstone formation differs somehow from the other by its mineralogical composition or by its origin. Today the geological evolution of these areas shows a landscape revealing many erosion features, joint patterns and rockslides from recent time, as well as a lot of elements from the geological past. The erosion often formed either narrow valleys into a sandstone plateau, or slopes of a cuesta, or buttes as residual hills or outliers, etc.

2. Archaeology of sandstone landscapes: from Prehistory to the Middle Ages

There is no doubt about the importance of sandstone landscapes from Prehistory to the Middle Ages. Archaeology contributes to the knowledge of the old populations within the limits given by the subject. Following topics are of special interest: the habitat and its additional activities, as well as architecture; burials, anthropology and taphonomy in sandy context; petroglyphs and rupestral art.

3. Flora, fauna and microclimate of sandstone ecosystems

Sandstone formations with their typical erosion features are known for special microclimatic conditions. Great variations in both humidity and temperature - including temperature inversion - are responsible for a huge diversity of plants and animals. The proliferation of Atlantic and sub-Atlantic species is remarkable; the presence of mountain and sub-mountain species is significant. Besides higher plants, the diversity of pteridophytes and the richness of nonvascular cryptogams like bryophytes and lichens of sandstone regions is in general outstanding. On the other hand, the sandstone outcrops, as well as extended woods and moist valleys offer habitats for a rich wildlife.

4. Human impact on sandstone landscapes: threats and protection

Sandstone landscapes often became the victims of their own success. Exploited and inhabited by man since prehistory, visited and solicited by modern man, seeking relaxation and ventures in these spectacular landscapes, the extreme fragile sandstone habitats are more and more threatened. In order to preserve the natural and cultural heritage of sandstone landscapes, concrete measures must be initiated and a tourism in accordance with the environment promoted.

Course of the Symposium

88 participants attended the conference, including speakers and translation staff (cf. list of participants).

Pre-conference excursion

The pre-conference excursion on Wednesday May 25 took the participants by bus to the heart of the "Petite Suisse" area. The participants were split into two groups according to the conference languages English and French.

On the programme: sandstone formations, forests and valleys around Berdorf and Beaufort (Fig. 1). The prehistoric sites of 'Kalekapp', petroglyphs and vandalism, rock formations and erosion, different forest associations, flora (including filmy ferns), fauna, rock climbing and related problems, tourism as well as nature conservation, were only some of the topics.

The field trip was rather demanding, but the barbecue during lunch break in the stunning scenery of Beaufort castle helped to forget aching legs and sunburn.

The guides were: Guy Colling, Alain Faber, Anne Hauzeur, Yves Krippel, Jean-Marie Sinner and François Valotteau.

The conference

The plenary sessions lasted the next two days, from Thursday May 26 to Friday May 27. The venue was the 'Centre culturel Larei', a former tannery complex transformed by the city of Vianden into a cultural centre. An abstract book was provided by the organizers (Ries 2005).

Instead of grouping the communications by major themes into distinct Symposia, the organizing committee was so audacious to mix up the contributions independently of their topic (cf.



Fig. 1: Pre-conference excursion in the Müllerthal area, May 25 2005. Photo: Milkuláš Radek.

programme). Under the bottom line, as everybody agreed, this atypical method was of great success. It is quite unusual that the last speaker of the day can find himself in front of a full auditory, most people having attended all day long. Of course this fact is also due to the excellent quality of the contributions and to the fact that the programme was reliable, all speakers perfectly respecting their allocated time.

We are especially thankful to Handrij Härtel and Jan Čeřovský who draw general conclusions at the conference closure and called for joining the sandstone community and for meeting again at the next conference which will be held in Poland in a couple of years. Jan Čeřovský draw the attention to the range of activities and working groups of the IUCN and proposed that the sandstone community should create an IUCN-working group covering the issues of sandstone areas.

On Friday May 27, after the second morning session, the organizers were happy to present the book about the Petite-Suisse area and to offer a copy to each participant (Fig. 2). The book comprises 251 pages and covers all the topics of the conference (Krippel 2005).

After the conference closure, the tourist train 'Benni' took the participants to a guided visit of the hydro electrical power plant SEO near Stolzembourg. The conference dinner took place the same evening in the Hotel Victor Hugo in Vianden.

Post-conference excursion

The post-conference excursion took the participants by bus to the German part of the Luxembourg sandstone area near Ernzen and Fersweiler. Again the participants were split into two groups according to the conference languages English and French.



Fig. 2: Presentation of the book about the Petite-Suisse area in front of the conference venue Lareï, May 27 2005. Photo: Milkuláš Radek.



Fig. 3: Post-conference excursion, Luxembourg-city, view on the Alzette valley and the Grund district, May 28 2005. Photo: Jiří Adamovič.

After a glance at the visitor centre 'Naturerkundungszentrum Teufelsschlucht', a trail took the participants through sandstone formations and deciduous woods to the valley of the Prüm and the 'Irreler Wasserfälle', small waterfalls caused by enormous rock boulders.

The afternoon was spent in Luxembourg-city covering geological, historical and botanical topics (Fig. 3). The excursion ended with a visit of two major museums, the National Museum of Natural History and the National Museum of History and Art.

The guides were: Georges Bechet, Alain Faber, Anne Hauzeur, François Valotteau and Holger Weber.

Conclusion

On behalf of the organizers we thank all the participants having attended the conference and especially those who have contributed to the programme excellence with a high diversity and quality of oral communications and poster presentations.

The magnificent weather conditions, the gorgeous conference venue and last but not least the sociability and sincerity of the participants made this symposium a remarkable event that will not be forgotten soon.

The conference showed clearly the similitude of the different sandstone landscapes scattered all over Europe and the similarities of the problematic of conservation of natural and cultural heritages in the different regions. By gathering participants of other countries, the Sandstone Community was enlarged and there was a clear consensus to join efforts in the future.

We hope these proceedings will contribute to spread knowledge about one of the most sensible landscape types in Europe and will increase networking amongst the scientific community working in and on sandstone areas.

Acknowledgements

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Excursion guides

- Georges Bechet (National Museum of Natural History, Luxembourg)
- Guy Colling (National Museum of Natural History, Luxembourg)
- Alain Faber (National Museum of Natural History, Luxembourg)
- Anne Hauzeur (research associate, National Museum of History and Art, Luxembourg)
- Yves Krippel (research associate, National Museum of Natural History, Luxembourg)
- Jean-Marie Sinner (Forestry administration, Diekirch)
- François Valotteau (National Museum of History and Art, Luxembourg)
- Holger Weber (Naturerkundungszentrum Teufelsschlucht, Germany)

Staff

- Bastin Jonny (Municipality of Vianden, conference venue Larei)
- Pascal Dellea (driver)
- Nadine De Sousa (student, Hotel school Diekirch)
- Véronique Maurer (student, Hotel school Diekirch)
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- SEO, Société électrique de l'Our, Vianden
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SANDSTONE SYMPOSIUM

2nd international conference on sandstone landscapes
Sandstone landscapes in Europe - Past, present and future

2^{ème} conférence internationale sur les paysages de grès
Paysages de grès en Europe - Passé, présent et futur

25.-28. 05. 2005 Vianden (Luxembourg)
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