



Introduction

Here we bring you the fourth Bulletin issue, with plenty of new information on recent developments in dry grassland research. The report from our 6th dry grassland meeting in Halle (Germany) hopes to bring its friendly and cooperative atmosphere to those who could not personally attend, and pleasant memories to the participants. An announcement of the EDGG meeting in Smolenice (Slovakia) in 2010 is provided again. We are pleased that the internationality of our organization is starting to be reflected in common fieldwork and projects - you can read more in the reports in this issue from field trips in the Ukraine and Transylvania. Traditionally, the Bulletin brings several reviews of interesting publications as well as small contributions in the sections Forum and Miscellaneous. A recent positive development is that our member Laura Sutcliffe is willing to help us with the English checking of the Bulletin contributions, thanks for that. We hope that you will find this issue interesting and useful.

Monika Janišová, Jürgen Dengler, Solvita Rūsiņa

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EDGG homepage: <http://www.edgg.org>

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European Dry Grassland Group



Group of dry grassland researchers on porphyry hills near Halle, Germany. Photo: M. Janišová.

The European Dry Grassland Group (EDGG) is a network of dry grassland researchers and conservationists in Europe. As an informal organisation we live from the activities of our members. Everybody can join EDGG without any fee or other obligation.

The basic aims of the EDGG are:

- ♠ To compile and to distribute information on research and conservation in dry grasslands beyond national borders;
- ♠ to stimulate active cooperation among dry grassland scientists (exchanging data, common data standards, joint projects).

To achieve its aims, EDGG provides four facilities for the information exchange among dry grassland researchers and conservationists:

- ♠ **the Bulletin of the EDGG** (published quarterly);
- ♠ **the EDGG homepage** (www.edgg.org);
- ♠ e-mails via our **mailing list** on urgent issues;
- ♠ **the European Dry Grassland Meetings**, organized annually in different places throughout Europe.

The EDGG covers all aspects related to dry grasslands, in particular: plants - animals - fungi - microbia - soils - taxonomy - phylogeography - ecophysiology - population biology - species' interactions - vegetation ecology - syntaxonomy - landscape ecology - biodiversity - land use history - agriculture - nature conservation - restoration - environmental legislation - environmental education

Responsibilities of the chairs:

Jürgen Dengler dengler@botanik.uni-hamburg.de: membership administration, book review editor, contacts to other organisations.

Monika Janišová monika.janisova@savba.sk: editorship of the EDGG Bulletin.

Solvita Rūsina rusina@lu.lv: editorship of the EDGG homepage.

To become a member of the European dry grassland Group or its subordinate units (German Arbeitsgruppe Trockenrasen, Working Group on Dry Grasslands in the Nordic and Baltic Region), please write an e-mail to Jürgen Dengler including your complete address and specifying which of the groups you want to join. The detailed information you can find at: http://www.edgg.org/about_us.htm.

6th European Dry Grassland Meeting in Halle (Saale), Germany

31 August – 3 September 2009

The sixth European Dry Grassland Meeting was held in the central German city of Halle upon the invitation of Dr. Ute Jandt and Dr. Monika Partzsch during the first week of September. As Table 1 shows, the Halle meeting further continued the positive developments of the previous years. While the number of participants was similar to that of the meetings in 2007 and 2008, the number of contributions as well as the number of countries represented increased. With colleagues from Bulgaria, the Czech Republic, Germany, Italy, Latvia, Poland, the Slovak Republic, Sweden, and the United Kingdom, it was a quite international conference.

Scientific program

A total of 15 talks, arranged in four sessions over the 1 ½ days of conference, and 17 posters, presented in two guided poster sessions, gave rise to vivid discussions during the meeting. The topics ranged from population biology and phylogeography of dry grassland species, through regional studies on dry grassland and related vegetation types, diversity patterns, pollination ecology, and simulation studies to conservation issues. Also the geographical scope was extremely wide and even exceeded the number of nationalities represented among the participants (Bulgaria, Czech Republic, France, Germany, Italy, Kazakhstan, Mongolia, Poland, Romania, Slovak Republic, Sweden, Switzerland + several supranational studies).

Additionally, the local organisers provided the possibility of guided tours through the nice Botanical Garden, in which the institute is situated, and through the city of Halle. A joint dinner in a Mexican restaurant on Monday evening, and a “get together” with barbecue in a greenhouse of the Botanical Garden completed the program and provided plenty of opportunity for discussion and planning of new cooperations.

General Discussion/ Assembly of the EDGG

The General Assembly on Tuesday evening started with a short report by each of the three chairs of EDGG on their activities and on the development of

EDGG. Jürgen Dengler (responsible for membership administration and contact with other organisations) reported on the very positive development EDGG experienced during its first year of existence. Starting with 191 members from 24 countries by end of 2008, when the German Arbeitsgruppe Trockenrasen and the Working Group on Dry Grasslands in the Nordic and Baltic Region joined to form the EDDG, our scientific network has experienced a high popularity since, particularly in eastern and southeastern Europe. On 1 September 2009, EDGG had 308 members from 35 countries. Solvita Rūsiņa (managing editor of the EDGG homepage) shortly reported on the functionalities of the homepage and invited the members to contribute to it, both with materials and with technical help. Monika Janišová (managing editor of the EDGG Bulletin) gave an overview on the idea of the Bulletin and invited contributions, particularly to Bulletin No. 4, whose deadline was extended to 15 September 2009.

Then, we talked about suggestions, wishes, and offers for venues of the European Dry Grassland Meetings from 2011 onwards. We discussed the invitation of our member Dr. Anna Kuzemko from the Ukrainian Academy of Sciences to host the 2011 meeting in the National Dendrological Park “Sofiefka” in Uman’, some 200 km from Kiev. Anna had prepared a short PowerPoint show to introduce the venue, her institute, and potential destinations for excursions. Her proposal found unambiguous support by all members present, and thus we decided to accept her kind offer. The preferred date (around Whitsun, e.g. 13-17 June 2011 vs. sometime in August) was left open and will be decided upon during the next months based on the comments from our members.



Further, we discussed about the offer of the president of the International Association for Vegetation Science (IAVS), Prof. Robert Peet, to make EDGG an official working group of this society. Such a closer connection between both organisations could result in mutual benefits. In particular, IAVS offered to consider giving small grants to EDGG activities (such as participation of members from low-income countries in European Dry Grassland Meetings). On the other hand, the status of being an official IAVS working group would involve only minor duties on side of the EDGG, such as preparing an annual report to the IAVS Advisory Council. After a discussion considering pros and cons of such a step, the General Assembly voted 17 : 0 in favour of accepting it, but allowed for additional votes of those members not present in Halle via e-mail ballot until 30 September.

Excursions

The destinations of the first excursion on Wednesday were porphyry outcrops in the surroundings of Halle. Led by Monika Partzsch, Ute Jandt, Helge Bruelheide and Rudolf Schubert, we enjoyed these particular landscape features with their astonishing small-scale β -diversity in sunny and warm late-summer weather. Lunch was held as a picnic on a farm that uses various breeds of sheep and goats as well as nandus for dry grassland restoration.



One of porphyry outcrops in the surroundings of Halle, destination of the first meeting excursion. Photo: J. Dengler.

The second, optional excursion on Thursday, again under the guidance of Monika Partzsch, led to the Unstrut valley SW of Halle. In a weather alternating between sun and heavy rain, we visited several nature reserves with stands of *Dictamnus albus* (burning bush) in forest-edge communities as well as dry and semi-dry basiphilous grasslands. The nice excursion was complemented with an Italian-style picnic with bread, cheese, olives and local wines.

Outlook

The abstracts of the conference contributions will be made available on the EDGG homepage (www.edgg.org). Further, we invite all authors of talks and posters to send pdfs of their contributions to Solvita so these can also be made available on our homepage. Finally, also photos with impressions from the conference and the excursions are welcome for our homepage. Conference-related materials for the homepage should be sent to Solvita (rusina@lu.lv).

As in previous years, EDGG plans to publish as many conference contributions as possible in peer-reviewed journals. On the one hand, there will be a Dry Grassland Special Feature in *Tuexenia* 30, guest-edited by Ute Jandt, Thomas Becker, Monika Janišová, Kathrin Kiehl and Jürgen Dengler (deadline for submission 15 October 2009). On the other hand, contributions with relation to the Hercynian region can be submitted for consideration in the next regular issues of *Hercynia* N. F. (managing editor: Monika Partzsch).



Guided city tour in Halle. Photo: M. Janišová.



Polytrichum piliferum (moss) and Diploschistes muscorum (lichen). Photo: J. Dengler.



Monika Partzsch (Halle) explains the role of aspect in dry grasslands on porphyry slopes. Photo: M. Janišová.



Investigation of cryptogams in the same locality. Photo: J. Dengler.



Gastronomical and zoological experiences during the excursions. Photo: J. Dengler (above) and M. Janišová (down).



Table 1: Historical development of the Dry Grassland Meetings.

Year	Meeting	Location	Motto	# Participants	# Countries	# Talks	# Posters
2004	1st Annual Conference of the Arbeitsgruppe Trockenrasen	Lüneburg	<i>Dry grasslands as biodiversity hotspots</i>	31	1	10	10
2005	2nd Annual Conference of the Arbeitsgruppe Trockenrasen	Münster	<i>Observation scales in dry grasslands</i>	33	3	11	9
2006	3rd Annual Conference of the Arbeitsgruppe Trockenrasen	Halle	[cancelled]				
2007	4th Annual Conference of the Arbeitsgruppe Trockenrasen [also 2nd Workshop 'Floristics and geobotany – Contributions to applied questions' of the Floristisch-soziologische Arbeitsgemeinschaft]	Freising	<i>Restoration and spontaneous establishment of dry and semi-dry grasslands at traditional and urban-industrial sites</i>	49	2	13	6
2008	5th Dry Grassland Meeting [jointly organised by the Arbeitsgruppe Trockenrasen and the Working Group on Dry Grasslands in the Nordic and Baltic Region]	Kiel	<i>Dry grasslands in a changing environment</i>	44	10	10	15
Foundation of the European Dry Grassland Group (EDGG)							
2009	6th European Dry Grassland Meeting	Halle	<i>Dry grasslands - species interactions and distribution</i>	40	11	15	16
2010	7th European Dry Grassland Meeting	Slovakia	[to be announced]				

Acknowledgements

We are grateful to the heads of Geobotany/Botanical Garden, Department of Biology, Martin-Luther University, Halle-Wittenberg, Prof. Isabell Hensen and Prof. Helge Bruelheide for hosting our conference. We thank the Floristisch-soziologische Arbeitsgemeinschaft e. V. and the city of Halle for financial support. Landesamt für Umweltschutz Sachsen-Anhalt kindly allowed the access to nature reserves during the excursions.

Ute Jandt, Halle (Saale), Germany,
e-mail: ute.jandt@botanik.uni-halle.de

Monika Partzsch, Halle (Saale), Germany
e-mail: monika.partzsch@botanik.uni-halle.de

Monika Janišová, Banská Bystrica, Slovak Republic
e-mail: monika.janisova@savba.sk

Solvita Rūsiņa, Rīga, Latvia
e-mail: rusina@lu.lv

Jürgen Dengler, Hamburg, Germany
e-mail: dengler@botanik.uni-hamburg.de



Prof. Helge Bruelheide and Prof. R. Schubert explaining details on dry grassland vegetation during the first meeting excursion. Photo: M. Janišová.

The 7th European Dry Grassland Meeting

28-31 May 2010
Smolenice Congress Centre, Slovak Republic



Organizers: European Dry Grassland Group; DAPHNE - Institute of Applied Ecology; Institute of Botany, Slovak Academy of Sciences.

Main topic of the meeting:

Succession, restoration and management of dry grasslands

Subtopics: a) succession and restoration in dry grassland communities, b) detection of „favourable conditions“ of dry grassland habitats, c) management models for grassland habitats, d) species invasions and expansions in dry grasslands, e) classification of successional stages and degraded communities.

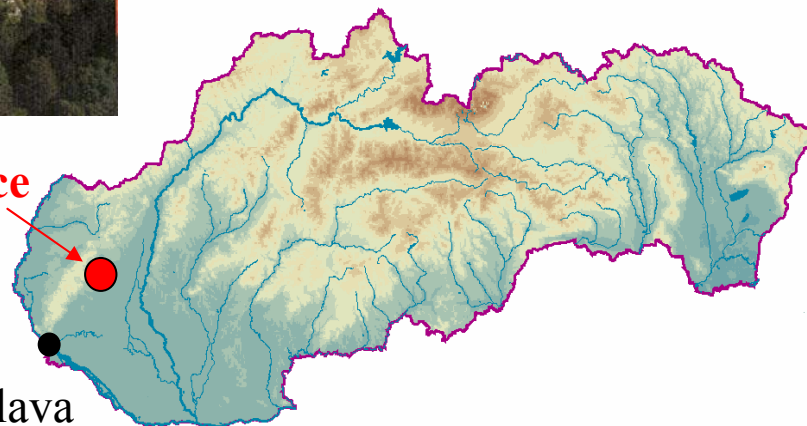
All other topics related to dry grassland ecosystems are welcome.

Preliminary time schedule:

- 27.5. arrival and dinner possible
- 28.5. arrival and registration, lectures and business meetings
- 29.5. lectures and poster sections
- 30.5. excursion (Dry grasslands of Považský Inovec, Tematín)
- 31.5. excursion and departure (Species rich semidry grasslands of Biele Karpaty Mts., Vrbovce)
- 1.6. breakfast possible, departure, optional lift to Bratislava by bus and short excursion to Devínska Kobyla (3-4 hours) available



Smolenice



Bratislava

The meeting will be held in **Smolenice** near Trnava (Western Slovakia) located about 60 km from the capital city Bratislava in north-eastern direction on the eastern foothills of the Malé Karpaty Mts. The Smolenice castle is towered above the village of Smolenice on the eastern foothills of Malé Karpaty Mts. Now the castle is owned by Slovak Academy of Sciences as The House of Scientists.

Accommodation is available in single, double, three- or four-bed rooms, or in apartments. The number rooms and approximate price per night are as follows: single room - 9 / 10 Euro, double room - 16 / 19 Euro, 3-bed room - 7 / 23 Euro, 4-bed room - 2 / 28 Euro, Apartment - 5 / 29 Euro.

Board is available, preliminary price for all inclusive is 12.95 Euro.

Deadline for abstracts, payments and registration:

January 31, 2010

Contacts:

Monika Janišová, Institute of Botany, Ďumbierska 1,
974 11 Banská Bystrica, e-mail: monika.janisova@savba.sk

Katarína Hegedúšová, Iveta Škodová, Institute of Botany, Dúbravská cesta 14, 845 23
Bratislava, tel/fax: +421252968508, +421902319829
e-mails: katarina.hegedusova@savba.sk, iveta.skodova@savba.sk



Locality Bôrovište in the Area of European importance Tematínske vrchy - destination of Excursion 1. Photo: M. Janišová.

Excursion 1: Dry grasslands of Tematínske vrchy (Považský Inovec Mts)

The Area of European importance Tematínske vrchy on calcareous bedrock, mostly triassic dolomites and has a very warm and dry climate with a distinct period of summer draughts limiting for distribution of living organisms. The area hosts a wide variety of dry grassland communities on calcareous bedrock (pannonian rupicolous grasslands, dealpine dry grasslands, etc.) as well as numerous rare and endangered plant and animal species (*Daphne cneorum*, *Onosma visianii*, *Anacamptis pyramidalis*, *Limodorum abortivum*, *Tibicen plebejus*, etc.). At the same time the area is a suitable place for presenting the effects of succession, afforestation by non-native woody species (*Pinus nigra*, *Fraxinus ornus*) and overgrazing by introduced large herbivores (mouflons) on various grassland communities.



Tematínske vrchy, Festuco pallentis-Caricetum humilis association. Photo: M. Janišová.

Excursion 2: Species rich semi-dry grasslands of the White Carpathian Mts (Biele Karpaty Mts), Žalostiná near the village Vrbovce

Biele Karpaty Mts (White Carpathian Mts) are situated along the border between Slovakia and the Czech Republic. Meso- and subxerophilous grasslands of this region are famous especially for their great species richness - up to 80 species of vascular



Tematínske vrchy, Minuartio setaceae-Seslerietum calcariae association with Phyteuma orbiculare. Photo: M. Janišová.



Biele Karpaty Mts., Vrbovce - destination of Excursion 2. Species rich meadows of Žalostiná. Photo: J. Košťál.

plants may occur in a plot of just 25 m². In the surroundings of the village Vrbovce there is a lot of lonely houses called “kopanice” with a mosaic of small arable fields, orchards and grasslands. Near such settlements beautiful species rich meadows occur belonging especially to the association *Brachypodio pinnati-Molinietum arundinaceae* from the alliance *Bromion erecti* (figure left). These stands are very valuable for the occurrence of many endangered and rare plant species, especially of the orchid family (*Orchideaceae*).

Excursion 3: Dry grasslands of Devínska Kobyla and Sandberg National Nature Reserve (Malé Karpaty Mts)

This unique territory is situated nearby capital city of Bratislava. It is well known paleontological and geological site with specific, rare and species-rich steppic flora and fauna, which represents one of the Natura 2000 sites and Important Plant Areas. From the phytosociological point of view, the prevailing vegetation

types are natural and semi-natural communities of sub-mediterranean xero-thermophilous oak woods (*Corno-Quercetum*, *Pruno mahaleb-Quercetum pubescentis*), colline limestone grasslands (*Poo badensis-Festucetum pallentis*, *Festuco pallentis-Caricetum humilis*, *Festuco vallesiacae-Stipetum capillatae*, *Polygalo majoris-Brachypodietum pinnati*) and Pannonian fringe vegetation (*Geranio sanguinei-Dictamnnetum albae*).



Pulsatilla grandis and *Iris pumila* in The castle in Smolenice, the National Nature Reserve Devínska Kobyla. Photo: K. Hegedúšová.



Locality Sandberg in the National Nature Reserve Devínska Kobyla - destination of Excursion 3. Photo: K. Hegedúšová

Other forthcoming events



Dry grasslands in the southern Transylvania, area of Seica Mare. Photo: E. Schneider.

9th Meeting on Vegetation Databases "Vegetation Databases and Climate Change"

24–26 February 2010, Hamburg, Gemany

Software workshops:

- ♣ How to deal with spatial autocorrelation?
- ♣ BIOTA Base
- ♣ "R" for vegetation scientists

Deadline for registration: 15 November 2009

Conference homepage:

<http://www.botanik.uni-greifswald.de/workshop2010.html>

19th Workshop of the European Vegetation Survey (EVS)

27 April - 2 May 2010, Pécs, Hungary

Contact: Dr. János Cziky (moon@ttk.pte.hu)

The program includes excursion to various types of steppic grasslands on sandy, loess, and stony substrates.

53th Symposium of the International Association for Vegetation Science (IAVS)

**18-23 April 2010, Ensenada, Baja California,
Mexico**

Motto: Changing Gradients in Vegetation and the Environment

Optional excursions:

- 12-17 April 2010: Southern California
- 24 April - 1 May 2010: 4 alternative excursions in Baja California

Deadline for abstract submission: 15 January 2010

Participation fees:

- IAVS members: 325 USD
- Non-IAVS members: 375 USD
- Students: 100 USD

Conference homepage: <http://iavs2010.ens.uabc.mx/>

EDGG cooperations

Ukraine

In May, 2009 the joint field research to Ukrainian dry grasslands was organised by Dr. Anna Kuzemko (Ukraine) and Dr. Solvita Rusina (Latvia). The cooperation started in 2007 when Anna Kuzemko visited dry grasslands in Latvia in order to become acquainted with *Festuco-Brometea* grasslands on their north-eastern border of distribution. There is a long-lasting discussion about the eastern and north-eastern European semi-dry subcontinental grassland syntaxonomy. Russian and Ukrainian phytosociologists include them in the order *Galietalia veri* of the class *Molinio-Arrhenatheretea* (Sipaylova et al. 1985, Shelyag et al. 1985, Mirkin & Naumova 1986, Kuzemko & Dziuba 2002) but phytosociologists from other countries in North-eastern Europe classify them as *Festuco-Brometea* communities (e.g. Balevičiene et al. 1998, Boch, Dengler 2006, Rusina 2007). The main goal of the field trips in Latvia and Ukraine was to investigate semi-dry grasslands (*Galietalia veri*) and their contact communities (typical steppe-meadows and steppes of *Festuco-Brometea*) in the field in order to exchange experience in methodological issues of vegetation description and analysis and to discuss the future prospects of preparing a phytosociological and geographical comparison of these disputable vegetation units. As a result of this cooperation also the idea about larger joint field research in 2010 in the frame of EDDG activities arise.

We are very grateful to Ukrainian colleagues who assisted us in field – dr. Irina Kovtun, dr. Vasiliy Shevchyk dr. Liudmila Gomlya and Denis Davydov.

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Anna Kuzemko and Vasiliy Shevchyk in Festucetea vaginatae grassland in the Dniepr Valley. Photo: S. Rūsiņa



*Festuco-Brometea vegetation in Central Ukraine (figure above left) with the detail of stand with *Salvia nutans* (above right), *Stipa pulcherrima* on the terrace slope of a small river (Molinio-Arrhenatheretea grassland in background, down left) and *Galietalia veri* grassland in the Psjol River floodplain (Central Ukraine, down right). All photos: S. Rūsiņa.*

Solvita Rusina, Rīga, Latvia, rusina@lu.lv

Anna Kuzemko, Uman, Ukraine, anya_meadow@mail.ru

Transylvania

EDGG cooperation on syntaxonomy and biodiversity of *Festuco-Brometea* communities in Transylvania (Romania): report and preliminary results

Introduction

In the Transylvanian Lowland (Romania), extensive dry grasslands still exist that are outstanding in diversity and conservation status compared to European standards. However, this treasure is not well documented so far. Despite a variety of local phytosociological studies by Romanian colleagues (see Sanda et al. 2008), three major issues have hardly been addressed before: (i) arrangement of the vegetation

types within a consistent national or supranational classification based on modern methodological approaches; (ii) consideration of the bryophytes and lichens in these dry grassland stands; (iii) description and analysis of the scale-dependent diversity patterns in these communities.

In a Romanian-British-German-Turkish-Bulgarian cooperation within the EDGG, we aimed at collecting and analysing baseline data for all three aspects mentioned. The idea for the present cooperation had



Fig. 1: Location of the study area (rectangle) in the north-central part of Romania.

emerged from a presentation of Eszter Ruprecht at the 5th Dry Grassland Meeting 2008 in Kiel, which then was published in the Special Feature of the conference (Ruprecht et al. 2009). Originally, the study was planned by Jürgen Dengler, Eszter Ruprecht, and Anna Szabó. Later, also Emin Uğurlu (Turkey) joined the team for the 10 days of field work in the region of Cluj. Dan Turtureanu, Monica Beldean and Andrew Jones became involved through ADEPT, a British-Romanian NGO, active in Southern Transylvania. Hristo Pedashenko (Bulgaria) helped with the data preparation and Christian Dolnik (Germany) is responsible for the determination of most of the non-vascular plants.

Study area

The Transylvanian Lowland in central Romania is a hilly region, about 300–700 m a.s.l. (Fig. 1). The substrates are mostly marly and the climate is subcontinental, with an annual precipitation of 520–650 mm.

Sampling methods

We sampled the whole range of *Festuco-Brometea* communities occurring in different places (many of them within Natura 2000 sites) in the Transylvanian Lowland, mainly in the counties of Cluj and Mureş (see Fig. 1). We applied two sampling designs, nested-plot sampling with plot sizes ranging from 1 cm² to 100 m² (Dengler 2009; n = 20) and phytosociological relevés with a standardised plot size of 10 m² (see Dengler et al. 2009; approximately n = 70). In both cases, we sampled vascular plants as well as terricolous bryophytes, lichens, and macroscopic cyanobacteria, recorded major environmental data

(altitude, aspect, inclination, microrelief, land use, structural data), and measured fundamental soil parameters.

Composition and classification

The studied communities were mostly dominated by grasses, such as *Stipa capillata*, *S. lessingiana*, *S. pulcherrima*, *S. tirsia*, *Bothriochloa ischaemum*, *Brachypodium pinnatum*, *Briza media*, *Bromus erectus*, *Festuca rupicola*, *F. pallens*, *Helictotrichon decorum*, *Sesleria heuflerana*, as well as *Carex humilis* and *C. tomentosa*. The stands were also rich in perennial forbs, with genera such as *Campanula*, *Centaurea*, *Euphorbia*, *Inula*, *Iris*, *Linum*, *Potentilla*, *Salvia*, *Trifolium* and *Veronica* represented by particularly many taxa. By contrast, therophytes, succulents as well as bryophytes and lichens were much less represented than in other European dry grasslands.

The classification of the 70 10-m² relevés that are presently available with modified TWINSPAN (see Roleček et al. 2009) resulted in three major clusters (Table 1). These correspond well to established phytosociological orders. They reflect different ecological situations: *Stipo pulcherrimae-Festucetalia pallentis* Pop 1968: rocky grasslands; *Festucetalia valesiacae* Br.-Bl. & Tx. ex Br.-Bl. 1950: xerophytic grasslands on soft substrates; *Brachypodietalia pinnati* Korneck 1974 (= *Brometalia erecti* W. Koch 1926 nom. amb. propos.): meso-xerophytic grasslands.

Table 1: Phytosociological table of the studied communities. S-F: *Stipo pulcherrimae-Festucetalia pallentis*, Fv: *Festucetalia valesiaca*, Bp: *Brachypodietalia pinnati*.

	All	S-F	Fv	Bp
Number of relevés	70	7	32	31
Mean altitude [m a.s.l.]	480	606	467	465
Mean inclination [°]	25	32	33	15
Mean heat index	0.34	0.48	0.61	0.02
Mean microrelief [cm]	8	17	9	4
Mean total vegetation cover [%]	77	61	67	92
Mean cover herb layer [%]	74	50	65	89
Mean cover moss layer [%]	10	24	1	15
Mean cover litter [%]	22	24	23	21
Mean cover stones and rocks [%]	3	32	0	0
Mean cover open soil [%]	14	6	24	5
Mean species richness (all plants)	51.4	42.0	40.0	65.3
Mean species richness (vascular plants)	49.1	37.9	38.6	62.5
Mean species richness (non-vascular plants)	2.2	4.1	1.3	2.8

Joint diagnostic species of the two xerophytic orders (O1 and O2)

<i>Stipa capillata</i>	43	71	72	6
<i>Vinca herbacea</i>	39	71	63	6
<i>Stipa pulcherrima</i>	43	71	69	10
<i>Artemisia campestris ssp. campestris</i>	21	43	38	.
<i>Dichantium ischaemum</i>	60	86	75	39
<i>Cleistogenes serotina ssp. serotina</i>	23	29	44	.

O1. *Stipo pulcherrimae-Festucetalia pallentis* Pop 1968

<i>Helianthemum nummularium ssp. obscurum</i>	14	100	3	6
<i>Allium flavum ssp. flavum</i>	11	86	6	.
<i>Linaria angustissima</i>	7	71	.	.
<i>Minuartia verna</i>	7	71	.	.
<i>Sedum hispanicum</i>	7	71	.	.
<i>Acinos arvensis</i>	16	86	6	10
<i>Cf. Tortella sp.</i>	9	71	3	.
<i>Genista januensis</i>	9	71	3	.
<i>Poa badensis</i>	6	57	.	.
<i>Syntrichia ruralis agg.</i>	6	57	.	.
<i>Melica ciliata ssp. ciliata</i>	14	71	13	3
<i>Anthericum ramosum</i>	19	71	6	19
<i>Carduus candicans ssp. candicans</i>	4	43	.	.
<i>Centaurea atropurpurea ssp. atropurpurea</i>	4	43	.	.
<i>Helictotrichon decorum</i>	4	43	.	.
<i>Sempervivum marmoreum</i>	4	43	.	.
<i>Allium albidum ssp. albidum</i>	13	57	16	.
<i>Medicago minima</i>	6	43	3	.
<i>Verbascum lychnitis</i>	6	43	3	.
<i>Amaranthus retroflexus</i>	6	43	.	3

O2. Festucetalia valesiaca Br.-Bl. & Tx. ex Br.-Bl. 1950

<i>Cephalaria uralensis</i>	30	.	63	3
<i>Stipa lessingiana</i> ssp. <i>lessingiana</i>	21	.	47	.
<i>Tragopogon dubius</i>	20	.	44	.
<i>Galium glaucum</i>	44	14	75	19
<i>Aster linosyris</i>	20	.	41	3
<i>Inula ensifolia</i>	36	29	66	6
<i>Astragalus monspessulanus</i> ssp. <i>monspessulanus</i>	26	.	44	13
<i>Veronica spicata</i> ssp. <i>orchidea</i>	50	43	78	23
<i>Prunus tenella</i>	33	43	63	.
<i>Euphorbia seguierana</i> ssp. <i>seguierana</i>	10	.	22	.

O3. Brachypodietalia pinnati Korneck 1974

<i>Lotus corniculatus</i>	37	.	.	84
<i>Brachypodium pinnatum</i> ssp. <i>pinnatum</i>	43	.	6	90
<i>Ranunculus polyanthemos</i> agg.	34	.	.	77
<i>Leontodon hispidus</i>	33	.	.	74
<i>Trifolium montanum</i>	31	.	.	71
<i>Plantago lanceolata</i>	43	.	13	84
<i>Dactylis glomerata</i> ssp. <i>glomerata</i>	30	.	.	68
<i>Homalothecium lutescens</i>	40	.	13	77
<i>Carex michelii</i>	36	14	.	77
<i>Briza media</i>	27	.	.	61
<i>Knautia arvensis</i>	27	.	.	61
<i>Linum catharticum</i>	26	.	.	58
<i>Filipendula vulgaris</i>	50	.	28	84
<i>Plantago media</i>	66	.	50	97
<i>Achillea millefolium</i> agg.	64	29	38	100
<i>Scabiosa ochroleuca</i>	36	14	6	71
<i>Leucanthemum vulgare</i>	21	.	.	48
<i>Carex tomentosa</i>	27	.	6	55
<i>Centaurea jacea</i> agg.	27	.	6	55
<i>Festuca pratensis</i>	20	.	.	45

Companions (mostly widespread Festuco-Brometea species)

<i>Asperula cynanchica</i>	84	100	75	90
<i>Festuca</i> ser. <i>Valesiaca</i>	81	71	66	100
<i>Teucrium chamaedrys</i>	79	57	84	77
<i>Thymus pannonicus</i> agg.	77	86	84	68
<i>Euphorbia cyparissias</i>	76	86	91	58
<i>Elymus hispidus</i>	74	57	72	81
<i>Koeleria macrantha</i>	73	29	72	84
<i>Stachys recta</i>	64	86	75	48
<i>Medicago sativa</i> ssp. <i>falcata</i>	63	86	53	68
<i>Potentilla cinerea</i> agg.	57	71	75	35
<i>Carex humilis</i>	56	43	78	35
<i>Convolvulus arvensis</i>	53	.	59	58
<i>Salvia pratensis</i> agg.	50	14	41	68

Diversity

We found very high species richness values at all spatial scales, compared to dry grassland types in most other European regions (Table 2; compare Dengler 2005). They are similar to values previously recorded from semi-dry grasslands in the White Carpathians (compare Klimeš et al. 2001) or from alvar grasslands in the hemiboreal zone (e.g. Dengler & Boch 2008, Löbel & Dengler 2008). In Transylvania, the highest richness values occurred in meso-xeric hay meadows (*Brachypodietalia pinnati*). It appears that our maximum values at 0.1 m² (45 species, including 43 vascular plants) and at 10 m² (102/99 species) are possibly the highest ever recorded in any plant community worldwide.

The heat index (a composite measure of aspect and inclination, see Olsson et al. 2009) was the strongest (negative) predictor of species richness at the 10-m² scale (Fig. 2), with the soil parameters not being available so far. In a multiple regression, additionally litter cover had significant negative effects, while microrelief and altitude had slight and insignificant positive effects.

Table 2: Species richness at different spatial scales.

Area [m ²]	n	Richness (all plants)		
		Min	Max	Mean
0.0001	40	0	5	2.6
0.001	40	0	9	4.6
0.01	40	3	20	10.2
0.1	40	8	45	22.7
1	40	18	82	40.0
10	70	9	102	52.3
100	20	58	131	87.9

Conclusions

We conclude that studying Transylvanian dry grasslands in more detail would be a high priority in order to understand the causes underlying the described biodiversity patterns and to place the community types encountered within a consistent, continent-wide classification scheme. At the same time, these communities represent an outstanding and highly valuable part of Europe's natural heritage that needs stronger conservation efforts, particularly as many of the stands are threatened by land use changes.

Outlook

These first, preliminary results have been presented at the 6th European Dry Grassland Meeting in Halle, only one month after the field work. Presently, we are adding some further relevés, determining the bryo-

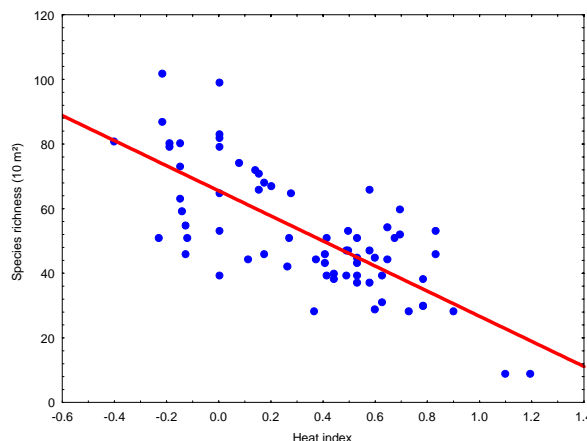


Table 2: Relation between species richness and head load.

phytes and lichens as well as some critical vascular plants, analysing the soil samples, and continuing the statistical analyses. In total, we plan three publications in international journals based on the data sampled, one on phytosociology, one on diversity patterns and finally a contribution to a comprehensive study on species-area relationships in dry grasslands throughout Europe.

Based on the stimulating experience of this cooperation, we are now planning several similar or consecutive international EDGG projects in SE Europe. (1) In 2010, we intend to carry out such a joint field work (with similar questions and sampling designs) in central Podolia (Ukraine), organised by Anna Kuzemko in collaboration with Solvita Rusina and Jürgen Dengler. (2) We plan to establish a comprehensive vegetation database of dry grassland relevés from SE Europe (i.e. Romania, Bulgaria, Ukraine, Moldova, and perhaps Hungary, ex-Yugoslavia, and Albania). More information on these planned projects will be provided under „Miscellaneous“ in one of the next Bulletin issues.

Acknowledgements

We thank the British-Romanian NGO FUNDATIA-ADEPT (www.fundatia-adept.org) for supporting this project financially.

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Jürgen Dengler, Hamburg, Germany
e-mail: dengler@botanik.uni-hamburg.de

Eszter Ruprecht, Cluj Napoca, Romania
e-mail: ruprecht@grbot.ubbcluj.ro

Anna Szabó, Cluj Napoca, Romania
e-mail: annuc19@gmail.com

Dan Turtureanu, Cluj Napoca, Romania
e-mail: turtureanudan@gmail.com

Monica Beldean, Cluj Napoca, Romania
e-mail: beldean.monica@yahoo.com

Emin Uğurlu, Manisa, Turkey
e-mail: ugurlu@yahoo.com

Hristo Pedashenko, Sofia, Bulgaria
e-mail: hristo_pedashenko@yahoo.com

Christian Dolnik, Kiel, Germany
e-mail: cdolnik@ecology.uni-kiel.de

Andrew Jones, Chepstow, UK
e-mail: llanllawddog@gmail.com



In many Transylvanian landscapes there are dry grasslands to the horizon. Photo: J. Dengler.



Order Stipo pulcherrimae-Festucetalia pallentis. Photo: J. Dengler.



Anna Szabó, Eszter Ruprecht, and Emin Uğurlu during the field work. Photo: J. Dengler.



Inula ensifolia. Photo: J. Dengler.



Slumping hill, a typical feature of the Transylvanian landscape. Photo: J. Dengler.



A plot of our nested biodiversity sampling according to Dengler (2009). Photo: J. Dengler.

Book reviews

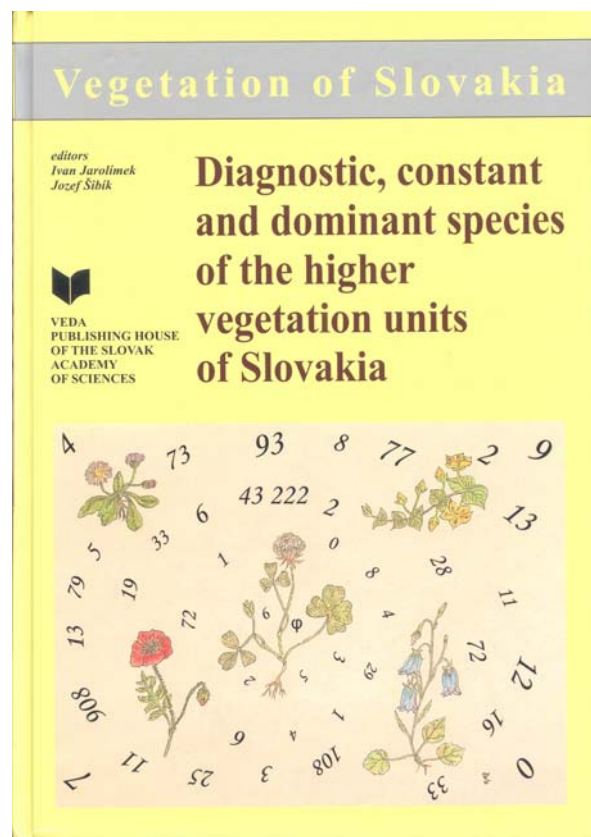
In this section, we will publish reviews of recent books relevant for dry grassland research and conservation. Apart from titles particularly dealing with dry grasslands, also more general titles can be included, as for example phytosociological overviews, floras/faunas and field guides of relevant taxa, or text books on methodology, ecology, and conservation/restoration. Jürgen Dengler (dengler@botanik.uni-hamburg.de) serves as coordinator for this section (book review editor). Thus, if you are an author, editor or publisher of a book and want to have it reviewed in the *Bulletin of the EDGG*, please, contact Jürgen. The same applies to EDGG members who want to review a specific new title.

Jarolímek, I., Šibík, J. (2008) [Eds.]: Diagnostic, constant and dominant species of the higher vegetation units of Slovakia. – Veda, Publishing House of the Slovak Academy of Sciences, Bratislava, 332 pp. ISBN 978-80-224-1024-3. Price: 20 Eur, possible to order from jozef.sibik@savba.sk

The fifth volume of the “Vegetation of Slovakia” deviates from the previous volumes, which have been published since 1995 (Valachovič 1995, 2001, Jarolímek et al. 1997, Kliment & Valachovič 2007), as it is not dedicated to individual vegetation types, but instead provides a complete overview of all vegetation types of the country. It consists of two chapters and three “appendices”.

The first chapter is the adaptation of the seminal contribution of Chytrý & Tichý (2003) on the Czech vegetation to the Slovak vegetation. In structure and presentation, it closely follows its precursor. It basically provides information on the Slovak National Vegetation Database (SNVD), explains the methods for establishing diagnostic, constant, and dominant species, and provides a “quality assessment” of the syntaxa used in the “Vegetation of Slovakia”. The SNVD contains 49,459 relevés. The plot size ranges used for classification have been reduced to 50–1,000 m² for forest vegetation, 10–200 m² for shrub vegetation, and (1–) 2–100 m² for herbaceous vegetation, leading to a set of 43,414 relevés that were finally used. Diagnostic species were defined as those species with a phi value above 0.24, but deviating from Chytrý & Tichý (2003), the calculation was done for vegetation units of equalized relevé number, thus avoiding some illogical results of the former approach. For the evaluation of classes and alliances, the authors used three measures: similarity between syntaxa, sharpness index, and uniqueness index.

The three appendices are (i) a list of the Turboveg Codes used for the syntaxa, (ii) an overview of all classes and alliances with their diagnostic, constant, and dominant species, (iii) an alphabetic list of all taxa in the database with information on their overall frequency and indication in which syntaxa they are diagnostic, constant, or dominant.



The second chapter, “A list of vegetation units of Slovakia”, co-authored by the EDGG members Monika Janišová, Daniela Dúbravková, Katarína Hegedúšová, and Iveta Škodová, provides the first complete syntaxonomic overview of the country since that of Mucina & Maglocký (1985). It basically consists of a list of accepted names with a few synonyms. Syntaxa in need of nomenclatural or syntaxonomic revision are highlighted. Luckily, in contrast to Chytrý (2007), not only classes, alliances, and associations, but also orders are included here. On association level, there are also a few informal communities listed, but the authors do not provide clear criteria

what the difference between an association and such a “community” should be. Regarding the dry grassland vegetation, the overview mostly follows Janišová (2007). It subdivides the *Koelerio-Corynephoretea* s.l. into three narrow classes *Koelerio-Corynephoretea*, *Festucetea vaginatae*, and *Sedo-Scleranthetea*, even though the analysis of similarity in chapter 1 had indicated that at least the first two are floristically very similar. Within the *Festuco-Brometea*, the authors follow other recent approaches (e.g. Berg et al. 2004) to define the orders ecologically rather than chorologically. Thus they oppose the meso-xeric order *Brometalia erecti* to the xeric order *Festucetalia valesiacae* (including the *Stipo pulcherrimae-Festucetalia pallentis*).

While, in general, this book is a wonderful source of information, a few aspects appear not completely satisfactory to me: (1) The calculation of phi values has been done across all vegetation types, and thus jointly for plots of 1–1,000 m². However, with such a huge range of plot sizes involved, confounding effects of plot size are unavoidable (see Dengler et al. 2009), leading to an overestimation of diagnostic species in vegetation units represented by larger plots compared to those represented by smaller plots.

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(2) Following the Czech tradition, phi values are unnecessarily presented with one decimal place, which suggests a precision that does not exist, and Fisher’s exact test is used with $\alpha = 0.001$ to cut down the lists of diagnostic species, without providing a sound statistical reasoning for deviating from $\alpha = 0.05$ as it is usually applied in ecology. (3) Appendix 3 could have been presented in a clearer and more informative way as a table (compare the “Gesamtklassentabelle” in Berg et al. 2001). (4) It is a pity that phytosociological orders are not considered in the first part of the book. (5) The sequence of syntaxa deviates strongly between the first and second part of the book.

Despite these minor criticisms, this book is an important and very useful publication for all phytosociologists throughout Europe. With it, the Slovaks underline that they, together with the Czechs, are the leading nation in modern vegetation classification. We are grateful to our Slovakian colleagues for publishing this book in English and for its moderate price as this makes the content widely accessible. This book whets the reader’s appetite for the two final volumes of the series, which will contain grassland and woodland vegetation.

Jürgen Dengler, Hamburg, Germany

Christian Berg, Jürgen Dengler, Anja Abdank, Maike Isermann [eds.] (2004): Die Pflanzengesellschaften Mecklenburg-Vorpommerns und ihre Gefährdung – Tabellenband, Textband. [Plant communities of Mecklenburg-Vorpommern and their vulnerability – Tables volume, Text volume. In German.] Landesamt für Umwelt, Naturschutz und Geologie Mecklenburg-Vorpommern. Weisdorn-Verlag Jena. Prices: 19.80 EUR (Tabellenband: 340 pp., ISBN 3-936055-00-9), 59.90 (Textband, 606 pp., ISBN 3-936055-03-3).

This two-volume edition brings the results of the project called “Plant communities of Mecklenburg-Vorpommern and their vulnerability” devoted to the survey of all plant communities of the federal state located in the NE Germany. The data have been collected since 1993 by a large group of authors including not only phytosociologists but also specialists of various taxonomical plant groups, mycologists and zoologists. The first volume contains phytosociological tables and the second volume brings the detailed descriptions of project aims, materials and methods, as well as characteristics of syntaxa, their vulnerability and conservational status. A short (6 pages) introductory chapter is included for English speaking readers with a brief explanation of the authors approaches and with basic information necessary for reading and interpretation of the presented data.

A large phytosociological dataset of 42 207 relevés was used as the basic source for analyses including nearly all published relevés of the studied territory and numerous unpublished relevés from theses and reports.

In spite of the fact that Germany has a long phytosociological tradition, there was no adequate complex and precise methodology defined for such kind of phytosociological syntheses. The authors were forced to develop their own up to date methodological concept based on principles of the traditional Braun-Blanquet school. To perform the analysis of a huge dataset, they accepted a set of elementary principles

to make the methods uniform and transparent. Twelve axiomatic definitions were formulated to fulfill this aim. Another condition was the compatibility with the vegetation overviews of the neighbouring regions and an easy application for nature conservation practitioners.

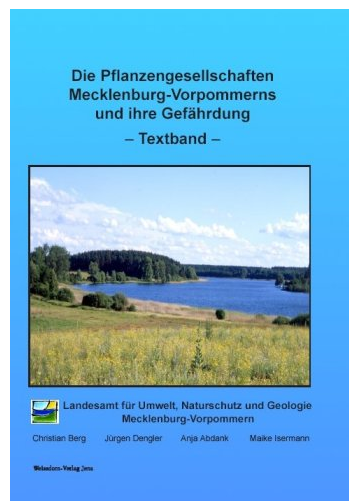
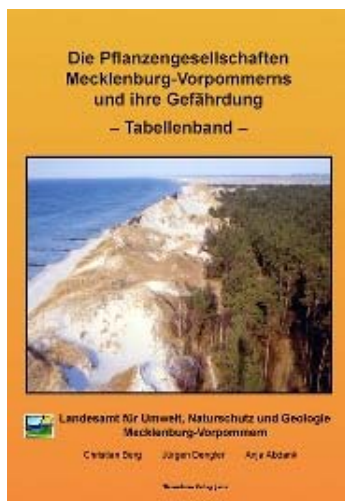
I would like to mention just a few points of the classification approach which I found to be interesting or innovative:

- ♣ No relevé was excluded according to transitional, fragmentary or successional character, only technical shortcomings (inadequate location outside the studied region, duplicates, incomplete or erroneous determination of the relevant species) could serve as a cause for a relevé exclusion.

- ♣ Prior to the classification, the dataset was divided into three parts including the herbaceous vegetation, vegetation dominated by phanerophytes and cryptogam vegetation. These three structural types of vegetation were classified separately. Thus all vegetation types were included except of insufficiently documented communities such as bramble shrubs and communities of marine macroalgae.

- ♣ For syntaxa insufficiently positively differentiated from the others at the given hierarchical level, the concept of „central syntaxa“ was adopted and broadened to all hierarchical levels. The central syntaxon should not be understood as a typical or representative one, the main reason was to include the formally unranked relevés lacking relevant diagnostic species into the well defined communities. Only one central syntaxon can be described for each syntaxon of superior rank while diagnostic species of the hierarchical level above served to its characterization.

- ♣ Species of cryptogam were considered for all vegetation units. For a real estimation of their constancy the „raw value“ was calculated where only relevés including cryptogam data were taken into consideration.



- ♣ For syntaxa with fewer than ten relevés available with complete records of cryptogams, external relevés from the neighbouring regions were used to complete the table for the constancy calculation in order to estimate precisely the diagnostic species.

The resulting classification system includes 26 classes of herbaceous vegetation and 8 classes of woody vegetation divided into 12 subclasses, 70 orders, 6 suborders, 125 alliances and 284 associations. In the tables volume the plant communities are presented in form of synoptic tables. Each class is generally represented by one table except several larger classes or classes with a complicated hierarchical structure (Parvo-Caricetea, Phragmito-Magno-Caricetea, Koelerio-Corynepherea, Trifolio-Geranietea and Artemisieteae vulgaris) which are divided into one table for the superior syntaxa and other (one or more) tables for the associations. In the tables, the species are arranged by their sociological values to the syntaxa of various range ordered hierarchically, the accessory species being listed at the end of tables. The percentage constancy is given for each species. The marking of sociological values in bold or italic case, shading and frames gives the reader a precise and structured information. However, for the common reader the reading of tables becomes complicated and is almost impossible without a previous deeper study of introductory part in the books. According to the authors, the complete unabridged versions of the tables should be available since 2004 on a CD-ROM at the LUNG (Landesamt für Umwelt, Naturschutz und Geologie Mecklenburg-Vorpommern).

A significant goal of the project was to assess the vulnerability of the individual vegetation types. For this purpose, the authors have developed a comprehensive system for evaluation of both vulnerability and nature conservation value resulting in estimation of priorities in practical conservation measures for individual communities. Thus, the books can serve as a Red Data Book of plant communities in the studied region. This evaluation system is well described in the German introductory part (chapters 3.7 to 3.9) by means of table overviews of exact criteria for assignment of communities to individual categories. This precise although rather complicated system can serve as an inspiration for similar studies for nature conservation purposes. Vulnerability of plant communities was assessed according to three criteria: current distribution, quantitative development since 1960 and threat from human activities. Estimation of communities' nature conservation value is based on the number of threatened taxa occurring in

a given community (weighted by their constancy), degree of human impact and proportional area of this community in the studied federal state compared to its overall area. An easier application of the proposed system is ensured by a useful survey of correspondence between the habitat types and phytosociological associations (Table 37).

Another step to broaden the scope of this phytosociological handbook towards the other biological disciplines is the inclusion of selected mycological and zoological information into each syntaxa characteristics. This type of information has a substantial value in preparation of optimal conservation measures sensitive to all vulnerable species groups and focussing not only on plants.

A highly positive aspect of this publication is the high-quality distribution maps of the syntaxa in the studied area. It combines input information from both floristical and phytosociological databases, visualizing thus not only recent state of community occurrences based on the available records but also their potential distribution derived from occurrence of their character species.

Both volumes contain a huge amount of information obtained through comprehensive and inspiring methods. For readers without knowledge of German some parts could be rather difficult to follow e.g. the description of the classification procedures, or tables with only German names of associations (Table 38). Here, an English translation of figure and table captions would help a lot. Sometimes the organization of tables together with the coding systems are too complex for an easy understanding of their contents. But with a little effort, the books can provide a substantial and valuable source of information of diversity, species composition and natural value of plant communities in the Mecklenburg-Vorpommern federal state. Moreover, it shows us one of possible ways in which the biodiversity surveys can be carried out and managed in other regions. I hope that similar successful projects will result in similarly valuable publications in the close future.

Monika Janišová, Banská Bystrica, Slovakia

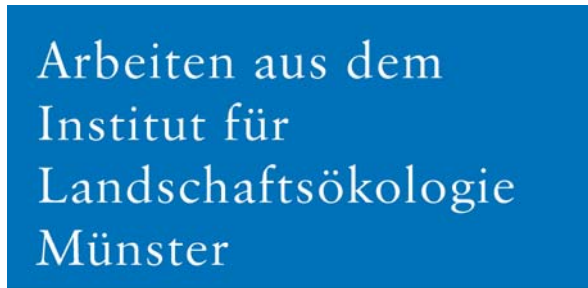
Bültmann H., Fartmann T., Hasse T. (Eds.) (2006): Trockenrasen auf unterschiedlichen Betrachtungsebenen. Observation scales in dry grasslands. – Arbeiten aus dem Institut für Landschaftsökologie Münster 15: 196 pp. Verlag Wolf & Kreuels, Münster. ISSN 1431-1313. <http://www.uni-muenster.de/Landschaftsoekologie/schriftenreihe.html>

The 15th volume of the *Arbeiten aus dem Institut für Landschaftsökologie Münster* is devoted to the contributions of the 2nd European Dry Grassland Meeting which was organised by the German Arbeitsgruppe Trockenrasen in Münster in August, 2005. The issue contains 10 articles and 2 short abstracts (another 5 articles were published in *Tuexenia* No.26 (2006) and their abstracts in English and German are published in this issue, too). The main language of the book is German (the article by M.Janisova is in English) but the English summaries are very informative and all table and figure captions are in both languages.

The main theme of the meeting *Observation scales in dry grasslands* is reflected in the book both in diversity of study objects and in approaches authors have applied to their research. Several articles are devoted to lichen ecology and vegetation. H. Bültmann compared lichen-rich vegetation in different stages of natural dune development and described both plant communities and lichen microcommunities. The study reflects the importance of scale in vegetation studies and stresses the fine scale of vegetation complexity. A. Jöhren & H. Bültmann presented interesting results on *Cladonia* species habitat preferences in *Corynephorus* grasslands and H. Bültmann outlined important findings about using of plant indicator values in vegetation studies, showing that it is not advisable to calculate mean indicator values for vascular plants, mosses and lichens but rather they should be calculated separately. Indicator values for 45 lichen species are provided.

Species biology and management was addressed in the article by M.Janišová, who analysed population biology of *Sesleria albicans* and *Festuca pallens*. Möhring et al. presented a successful management scheme using horses for the plant species *Gentiana cruciata* and the butterfly *Maculinea rebeli*.

Several important findings are presented by authors studying patterns of species and vegetation diversity. Klimaschewski et al. showed interesting results on species migration into fallow land from the adjacent dry grassland. It was concluded that the migration success depends on the mutual location of fallow land and grassland and from species ability of dissemination. S. Boch & J. Dengler analysed vegetation diversity of Saaremaa Island dry grasslands (synoptic tables included). Hitherto, it is the most comprehensive floristic (including mosses and lichens) and ecological characterisation of dry grasslands of Saaremaa. In



another article, J. Dengler analysed variability of species density and composition at different spatial scales. He showed in several examples that real vegetation stands do not possess floristic homogeneity and that this should be taken into account in biodiversity studies. Species richness of dry coastal grasslands of the Curonian Spit (relevés also published) was studied by Ch. Dolnik, and the main conclusion was that lichens are under-represented and mosses are over-represented in scales less than 1 m².

In conclusion, the present issue comprises high quality papers containing useful information on dry grassland vascular plant and cryptogam diversity patterns and ideas for methodological approaches in dry grassland studies and is recommendable for every vegetation scientist dealing with grassland vegetation.

Contents (full articles):

- Bültmann H. *Terricolous lichens in complex dune landscapes of northern Jutland on different observation scales*
- Jöhren A. & Bültmann H. *Edaphic habitat factors of selected Cladonia species in Corynephorus canescens grasslands*

Janišová M. *Caespitose grasses in dry grassland communities at several organization scales.*

Boch S., Dengler J. *Floristic and ecological characterisation as well as species richness of the dry grassland communities on the island Saaremaa (Estonia).*

Dengler J. *Variability of species density and species composition on different spatial scales – exemplary results from dry grasslands and consequences for the sampling setup in biodiversity studies.*

Dolnik Ch. *Species richness of coastal dry grassland of the Curonian Spit and the Sambian Peninsula on different scales.*

Klimaschewski B., Evers Ch., Brandes D. *Investigations about migration of Festuco-Brometea and Koelerio-Corynephoretea species into fallow land.*

Bammert J.W. *Dry grassland vegetation as mosaic and mosaic component – a consideration of methods with two examples from southern Baden.*

Bültmann H. *Indicator values of terricolous lichens in dry grasslands: proposal of additions and amendments.*

Solvita Rusina, Rīga, Latvia



Recent publications of our members

With this section, we want to facilitate an overview of dry grassland-related publications throughout Europe and to improve their accessibility because many publications on dry grasslands appear in national or regional journals hardly known to researchers in other countries.

We ask our members therefore to send lists of their recent relevant publications to Monika Janišová: monika.janisova@savba.sk. Please follow the style of a recent issue of the Bulletin and provide an English translation of the title for publications in other languages. Publications of the recent and the three preceding years will be considered and each publication will be listed only in one Bulletin.

If you would like to have your publications linked from our homepage (<http://www.edgg.org>), you may send a quotation to Solvita Rūsiņa: rusina@lu.lv. In this case, you should provide access to a pdf of your publication by one of the following three ways: (i) send a pdf to Solvita to be posted directly on the EDGG homepage; (ii) send a link to a URL at which the pdf is being made available permanently; (iii) provide your e-mail contact to allow colleagues to ask you for a pdf (in case you are not allowed to post a pdf openly).

Anastasiu, P., Pascale, G., Cristurean, I. (2008): Regarding grasslands between Sărățelului Valley and Slănicului Valley, Buzău County. – *An. Univ. Craiova, Agric. Montanologie Cadastru* 38/B: 11–25, Craiova.

Becker, T. (1998): Die Pflanzengesellschaften der Felsfluren und Magerrasen im unteren Unstruttal (Sachsen-Anhalt). – *Tuexenia* 18: 153–206 + 4 tables, Göttingen.

Becker, T. (1998): Zur Rolle von Mikroklima- und Bodenparametern bei Vegetationsabfolgen in Trockenrasen des unteren Unstruttals (Sachsen-Anhalt). – *Gleditschia* 26: 29–57, Berlin.

Becker, T. (1999): Die Xerothermrassen-Gesellschaften des unteren Unstruttals und einige ökologische Gründe für ihre Verteilung im Raum. – *Mitt. Florist. Kartierung Sachsen-Anhalt* 4: 3–29, Halle (Saale).

Becker, T. (2000): Die Bedeutung des unteren Unstruttals für den Schutz der Xerothermrassenflora in Deutschland. – *Hercynia N. F.* 33: 99–115, Halle (Saale).

Becker, T. (2003): Auswirkungen langzeitiger Fragmentierung auf Populationen am Beispiel der reliktschen Steppenrasenart *Astragalus exscapus* L. (Fabaceae). – *Diss. Bot.* 380: 210 pp., Cramer, Berlin.

- Becker, T., Brändel, M. (2007): Vegetation-environment relationship in a heavy metal-dry grassland complex. – *Folia Geobot.* 42: 11–28, Průhonice.
- Becker, T., Brändel, M., Dierschke, H. (2007): Trockenrasen auf schwermetall- und nicht schwermetallhaltigen Böden der Bottendorfer Hügel in Thüringen. – *Tuexenia* 27: 255–286 + 5 tables, Göttingen.
- Becker, T., Dierschke, H. (2008): Vegetation response to high concentrations of heavy metals in the Harz Mountains, Germany. – *Phytocoenologia* 38: 255–265, Berlin.
- Bruehlheide, H., Jandt, U. (2007): The relationship between dry grassland vegetation and microclimate along a west-east gradient in Central Germany. – *Hercynia N. F.* 40: 153–176, Halle (Saale).
- Dierschke, H., Becker, T. (2008): Die Schwermetall-Vegetation des Harzes – Gliederung, ökologische Bedinungen und syntaxonomische Einordnung. – *Tuexenia* 28: 185–227 + 1 table, Göttingen.
- Partzsch, M. (2007): Flora, Vegetation und historische Entwicklung der Porphyrkuppenlandschaft zwischen Halle und Wettin (Sachsen-Anhalt). – *Schlechtendalia* 15: 1–91, Halle (Saale).
- Pedashenko, H., Meshinev, T., Apostolova, I. (2009): Herbaceous vegetation on carbonate terrains in Mt Lozenska. – *Phytol. Balcanica* 15: 245–253, Sofia.
- Sopotlieva, D. (2009): Poo bulbosae-Achilleetum pseudopectinatae: a new plant association. – *Phytol. Balcanicae* 15: 235–244, Sofia.

Contact to the authors:

beckert@staff.uni-marburg.de

jandt@botanik.uni-halle.de

partzsch@botanik.uni-halle.de

fristop_pedashenko@yahoo.com

desisop@bio.bas.bg

anastasiup@yahoo.com



Forum

Proposal of journals for WoS and SCOPUS

The “quality” of the research of individual scientists is increasingly being assessed by use of large literature databases such as **Web of Science (WoS)** provided by Thomson Reuters or **SCOPUS** provided by Elsevier B.V. This growing practise puts colleagues at a disadvantage who, like many members of the EDGG, publish a significant proportion of their (mostly descriptive) studies in regional or national journals of natural history, botany, or zoology. Such journals, particularly if they come from Europe, are still strongly underrepresented in such international literature databases. This is most evident in the case of WoS, which provides the basis of the calculation of the influential “impact factors”.

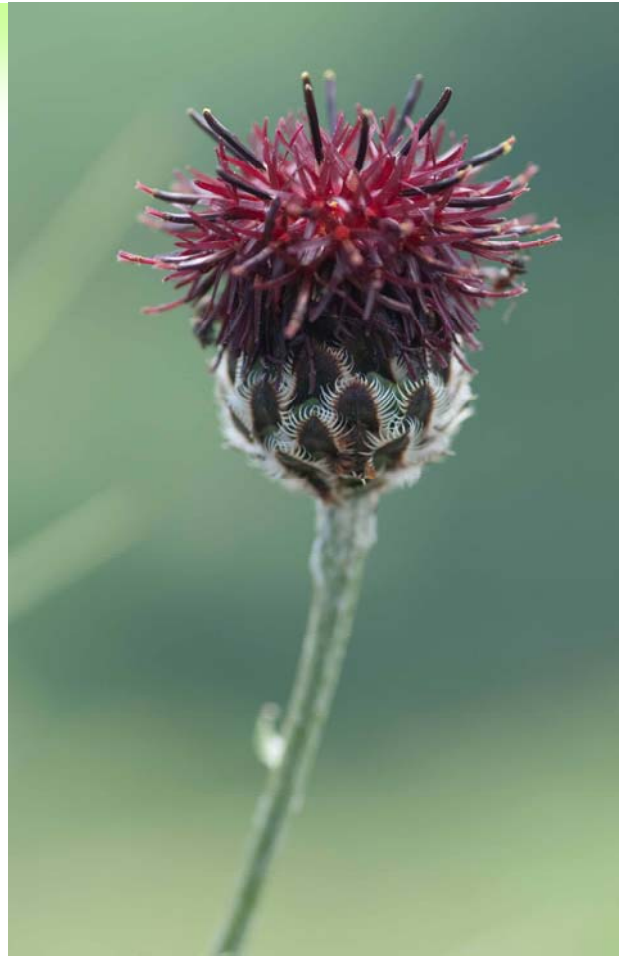
However, we do not have to live with a situation that is negatively biased against the research of many of us. Both WoS and SCOPUS are published by highly commercial firms, which, first of all, want to sell their product for a lot of money. Which journals are included in WoS or SCOPUS thus is not primarily a question of their quality but of the demands of the customers. And you all are customers as you use the libraries of your institutions, which most likely have subscribed to WoS and/or SCOPUS. Thus, both Thomson Reuters and Elsevier B.V. have internet portals where scientists worldwide can suggest additional journals for inclusion in their databases. If the same journal is proposed by many colleagues from different institutions in different countries, the chances that it will actually be included in the near future (and receive an impact factor) will dramatically increase (though neither Thomson Reuters nor Elsevier B.V. have transparent criteria for inclusion/exclusion of journals).

Thus, if you want that national and regional journals, such as *Feddes Repertorium*, *Tuexenia*, *Lazaroa*, *Hacquetia*, *Phytologia Balcanica*, or *Hercynia N. F.* be covered by these databases, you could use their “recommendation pages” to express this wish:

Web of Science: <http://science.thomsonreuters.com/info/journalrec/>

SCOPUS: <http://suggestor.step.scopus.com/suggestTitle.cfm>

Jürgen Dengler (dengler@botanik.uni-hamburg.de)



Centaurea atropurpurea. Photo: J. Dengler.

Grants by FAN(B)

The **Förderkreis Allgemeine Naturkunde Biologie e. V. (FAN(B))** is a small German NGO that supports non-commercial studies of natural history topics (vegetation, plants, animals, fungi, conservation) in the region between central Europe and Siberia. Research projects by anybody (university staff, students, private persons) can be supported with small grants of 500–1,500 € each. The only requirement is that the results of the research are published afterwards. You can apply for grants twice every year (1 March and 1 November) via the homepage www.fan-b.de (in German only).

Jürgen Dengler (dengler@botanik.uni-hamburg.de)

Scholarship Exchange Programme of the Deutsche Bundesstiftung Umwelt (DBU)

The Deutsche Bundesstiftung Umwelt (German Environmental Foundation, DBU; www.dbu.de/359.html) is a very large foundation that, among others, offers a scholarship exchange programme with CEE countries. Within this programme, young researchers from "eastern" European countries (Estonia, Latvia, Lithuania, Kaliningrad region of Russia, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Albania, Bosnia Hercegovina, Croatia, Macedonia, Serbia, and Slovenia) can receive a grant for a research stay in Germany from six to twelve months. The aim of the programme is to broaden the professional horizons of these young colleagues in the ecological and conservational domain. Application to the programme is open to graduates up to 30 years of age with an above-average exam grade achieved within the last three years. Each year, about 60 persons are supported.

Detailed information on the programme can be found at www.dbu.de/963.html. First contact and the application for a scholarship are made in the respective home countries. DBU partner organisations have their seat there and raise awareness about the programme at universities and are available for applications and

inquiries. Selections are held once a year; the research stay in Germany starts approximately six months after the selection interviews. Deadlines are country-specific and can be found on the mentioned homepage.

Applicants choose their host institution among research centres, universities, enterprises, ministries, offices, and NGOs themselves (see www.dbu.de/618.html). Currently, my group at the University of Hamburg is listed as potential host for candidates from the EDGG (www.dbu.de/index.php?menuecms=619&praktid=87), but other German EDGG members who wish to host DBU scholars to deal with dry grassland-related topics should contact me. Also young candidates from CEE countries who are interested in the programme and search for an institution matching their scientific interests (phytosociology/classification, community ecology, biodiversity research, population biology, taxonomy, landscape ecology, conservation, restoration,...) may contact me and I will help to find a suitable host.

Jürgen Dengler (dengler@botanik.uni-hamburg.de)

Miscellaneous

In July 2007, an urgent request from Monika Bertzky, programme officer of the World Conservation Monitoring Centre (WCMC) for "Climate Change and Biodiversity" for the expertise of the EDGG members reached us. She was asking for our opinion on the present wording of the first directive on sustainable biofuel production in an European country, and how the wording could be improved in order to better reflect conservation goals in (dry) grasslands. Such directives could have serious effects on dry grassland conservation throughout Europe (though it presently is only a German directive, but it probably will serve as a prototype for similar directives in other EU countries). One of the EDGG members, Hauke Drews from Germany, provided a very insightful comment which hopefully has helped the WCMC to lobby more efficiently for nature conservation. As Hauke Drews' comment might be also of interest for many other EDGG members, we present it here:

I can only tell what the German "Einspeisevergütung" (the price guarantee of 0,5 € / kWh for renew-

able produced electricity, duration 20 years from 2005 onwards) caused in the agriculture in Schleswig-Holstein.

I work for Stiftung Naturschutz Schleswig-Holstein. My organization buys land and carries out nature conservation measures on this purchased land. Since 30 years we were able to buy 1000 to 1500 ha per year in Schleswig-Holstein (surface 1.5 Mio ha of land, 1 Mio ha of agricultural land, 70% of all land is in agricultural use). This formerly purchased land was mainly land of lesser interest for farmers: peat land, agricultural fields in sandy areas, permanent grassland, salt meadows, pump drained fen land, etc. Since gas production from maize was established first 4 to 5 years ago, this process of land purchase stopped nearly suddenly in areas which are interesting for arable land use.

In the last 4 years about 10 percent of all farm land was converted to maize fields. Several hundred maize gas operating electricity producing units were estab-

lished. Each takes about 200 to 300 ha of farm land and grows maize on the land. The demand on land was increased so much that in some regions the land lease price was doubled. The land is leased up to 20 years. So that in the near future no possibility for conservation measures is there even if the land will be sold in the next years.

All arable land that was formerly sold towards nature conservation is now demanded for agricultural production. 100.000 ha of former peatland is drained and used as arable fields or intensively used grassland. The process of phase out from that areas and the planned rewetting of drained peat lands nearly stopped now, when gas-maize production companies leased organic soils in many areas and converted them to arable fields. As these companies do not receive subsidies so they can not be treated for that - now forbidden conversion - easily within the agricultural system.

The result of a 5 year process is that 100.000 ha of 450.000 ha of permanent grassland had been lost and there are no ideas from the policy up to now how to counteract. Dairy cattle farmers can not compete with these new competitors on the land market and so they have to keep on their unsustainable

land use of grasslands in former peat bog and fen areas.

Bog rewetting projects are about to stop because the last plots can not be purchased. Land owners prefer to keep their land and lease it the gas-maize production. My prediction is that Schleswig-Holstein will further on discharge too much nitrogen via run off to off to Baltic Sea and North Sea (about 80.000 to 100 000 to per year).

So if there will be new ideas also for bio fuel production, one has to be aware that each single EURO of subsidies will deeply change our landscapes in a bad direction, that means less natural values and less biodiversity. This will inhibit that we ever reach our aims on fulfilling NATURA 2000, water frame work directive and biodiversity aims.

My simple recommendation is that we should spend public money in science to develop new/other technologies (fusion, wind, solar) instead of spoiling our landscapes and increase the speed of intensification in agricultural systems.

*Hauke Drews, Stiftung Naturschutz Schleswig-Holstein, Molfsee, Germany
e-mail: drews@sn-sh.de*



Dry grasslands in the southern Transylvania, area of Valea Buii. Photo: E. Schneider.



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Editors: Monika Janišová (managing editor, monika.janisova@savba.sk, Institute of Botany, Slovak Academy of Sciences, Ďumbierska 1, 974 11 Banská Bystrica, Slovak Republic), Jürgen Dengler (Hamburg, Germany), Solvita Rūsiņa (Riga, Latvia). Linguistic proof-reading: Laura Sutcliffe.

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Important dates: The deadline for Bulletin 5 is 30.11.2009.

Bulletin 5 to appear: December 2009

Bulletin 6 to appear: March 2010