Bulletin 9

of the European Dry Grassland Group

Dear members of the European Dry Grassland Group,

we invite you to read the December issue of our Bulletin. Highlights include a survey of grassland habitats in Italy, a report from the recent conference in Sibiu (Romania) devoted to conservation of High Nature Value Grasslands, an invitation to the third EDGG expedition 2011 in Bulgaria, introduction to potential venue of European Dry Grassland meeting 2012 in Greece and several smaller contributions. We would like to thank you for all your activities with the EDGG in 2010, your pleasant company during the common events and your contributions to the Bulletin issues. We look forward to your cooperation in 2011!

Monika Janišová & members of EDGG Executive Committee

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Photo left: J. Dengler

December 2010

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

European Dry Grassland Group

The European Dry Grassland Group (EDGG) is a network of dry grassland researchers and conservationists in Europe. EDGG is a Working Group of the International Association for Vegetation Science (IAVS). EDGG is supported by the Floristisch-soziologische Arbeitsgemeinschaft.

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 seven 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.
- **EDGG research expeditions** to sample baseline data of underrepresented regions of Europe
- **EDGG vegetation databases**
- **Special Features** on dry grassland-related topics in various peer-reviewed journals

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 Executive Committee members:
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Everybody can join EDGG without any fee or other obligation. To become a member of the European dry grassland Group or its subordinate units 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.

Membership development

As of 29 November 2010, EDGG had 586 members from 48 countries. The membership figures of the four regional subgroups are as follows:

- **German Arbeitsgruppe Trockenrasen:** 187
- **Working Group on Dry Grasslands in the Nordic and Baltic Region:** 68
- **Southeast European Dry Grassland Group (SEEDGG):** 150
- **Mediterranean Dry Grasslands (Med-DG):** 143

Brachypodietalia pinnati community in the Southern Transylvania, Romania. Photo: J. Dengler.

Kick-off workshop for the SE European Dry Grassland Vegetation Database in Hamburg, Germany. Photo: J. Dengler.

Dry grasslands habitat types in Italy

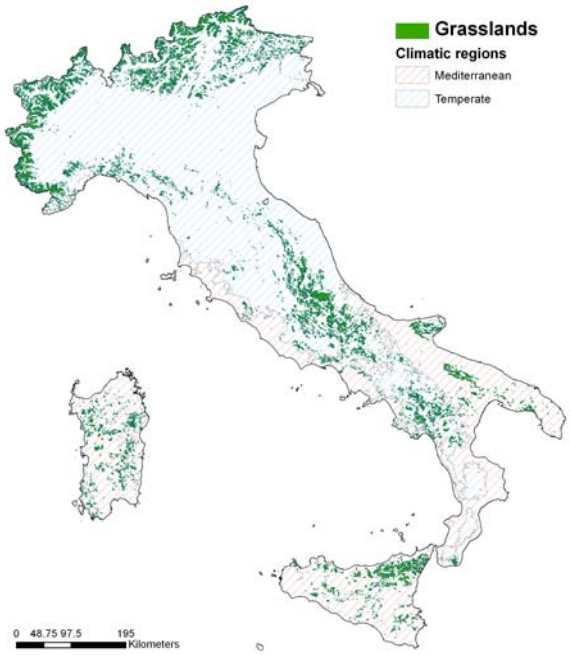

Fig. 1 Distribution of grasslands in Italy in relation to the macroclimatic regions.

Environmental heterogeneity and the distribution of dry grasslands

Grasslands cover about 6.2% of Italian territory, and about 3.6% are mapped as open grasslands in APAT (2005). Dry grasslands are present, to different extents, in all the Italian regions, showing a very wide typological variety. They occur mainly along the Alpine and the Apenninic range, and on the islands (the map above).

This wide and uneven distribution is related to the differences in the substrata. Dry grasslands mostly develop on limestone and dolomitic rocks, where the surface water flow is lacking due to karstic processes. Nevertheless, there are several dry grasslands developing on sandstone, gypsum, clay, marls, and, in the Alps, on granitic and metamorphic rocks.

A common feature of the areas occupied by dry grasslands is the limited development of the soil, which in some areas is extremely thin. This is often related to human activities that contributed to soil erosion. Deforestation, intensive grazing and frequent fires on the one hand determined a progressive erosion of the soil in wide areas of the country, on the other have helped maintain the grassland habitats for centuries.

Indeed only a small part of Italian dry grasslands, mainly those located at higher altitudes (alpine and subalpine belts), represent primary vegetation, while the ones located at lower altitudes, which are the great majority of Italian dry grasslands, are of secondary origin.

Differences in dry grassland types reflect coarsely also the biogeographic gradients that can be found in the country and led the authors of several European and Italian biogeographic maps (Rivas Martínez et al. 2001; ETC-BD 2006; Giacomini 1958; Pedrotti 1986; Blasi et al. in press) to draw the limit between the Eurosiberian and Mediterranean biogeographic regions in the Italian peninsula (Fig. 2).

Fig. 2. Part of the biogeographic map of Europe (Rivas-Martínez et al. 2004).

Natural grasslands	
6110*	Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi*
6130	Calaminarian grasslands of the *Violetalia calaminariae*
6150	Siliceous alpine and boreal grasslands
6170	Alpine and subalpine calcareous grasslands

Semi-natural dry grasslands and scrubland facies	
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia) (*important orchid sites)*
6220 *	Pseudo-steppe with grasses and annuals of the *Thero-Brachypodietea*
6230 *	Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas in Continental Europe)
6240 *	Sub-pannonic steppic grasslands
62A0	Eastern sub-mediteranean dry grasslands (*Scorzoneratalia villosae)*

Table 1 The habitats of the European Directive 92/43/EEC of the group "Natural and semi-natural grasslands formations" that occur in Italy according to the recent national interpretation manual (Biondi et al., 2009).

Moreover, the strong heterogeneity of vegetation types occurring in the country is related to the great variety of climatic conditions due to the latitudinal range and to the presence of complex orographic systems. The Temperate Region extends from northern Italy to the Apennine, and the Anti-Apennine, including also the areas at intermediate and high altitudes in the islands and in the southern territories. The Mediterranean climate characterizes mainly the coastal and sub-coastal areas, especially on the Tyrrhenian side (with the exclusion of eastern Liguria), the Ionian coasts, and the southern Adriatic coast, up to the Abruzzi region (Blasi & Michetti 2007). It is also in relation to such a large climatic diversity, ranging over two macroclimatic regions, that dry grasslands are represented by different habitat types.

In Northern Italy, dry grasslands are widespread in the "steppic" inner alpine valleys, which are E-W oriented, parallel to the Alpine range, and thus receive very low rainfall with an overall highly continental climate. In the Western Alps (e.g. Valle d'Aosta) the climate shows sub-mediterranean traits, with a summer rainfall minimum. In continental inner alpine valleys dry grasslands occur mainly on metamorphic substrata.

Dry grasslands can be found also in the Pre-Alps; even if in these areas the annual rainfall is abundant, dry conditions may occur, mainly related to carbonatic substrata (limestone and dolomite) and to local topographic conditions (southern aspect and steep slope). The areas located near the great lakes of the Pre-Alpine region are characterized by a mild climate which allows the presence of termophilous, sub-Mediterranean or Mediterranean species.

Dry grasslands are particularly abundant in the Carso region near Trieste due to sub-Mediterranean climate and the typical drought of karstic regions.

Even in the lowlands (Po plain) the conditions for the establishment of dry grasslands may occur, particularly where coarse sediments accumulate and the high permeability determinates particularly dry conditions. These conditions occur for example along the beds of great rivers (e.g. Ticino, Po).

Finally, in North-Western Italy, some hilly systems (Langhe, Monferrato) are characterized by rather scarce annual rainfall and by badlands that host several dry grassland communities.

The peninsula displays strong climatic and biogeographic gradients and hosts grasslands types typical of both Temperate and Mediterranean climates. These differences are mainly related to the distance from the coast, the altitude and the position with respect to the Apenninic range. The Appenninic range hosts primary grasslands above the timberline and secondary grasslands developed in wide areas used as pastures or cultivated lands still today or until relatively recently.

Along the Apennines, in the northern areas dry grasslands are widely developed on limestone, however they can be found also on sandstones and claystones, and more rarely on gypsums. In central Apennines dry grasslands occur mostly on carbonatic substrata, while in the southern areas they can be found on different substrata (clay, sandstone, alluvial deposits, schists and gneiss).

Grassland habitats can develop along a wide ombroclimatic gradient, mainly in the hilly and montane belts, even in the inner intra-montane areas characterized by higher continentality which creates conditions particularly favourable for the occurrence of dry types.

In the areas characterized by a Mediterranean climate dry grasslands are widespread and sometimes display impressive extensions. Along the coasts the occurrence of dry grasslands is rather discontinuous, since it is strongly influenced by past and current land use. Wide portions of the Basilicata region characterized by badlands host dry grassland. Also the Apulian peninsula, where karstic processes are very frequent and the annual rainfall is scarce, is widely occupied by dry grasslands.

The major islands, Sicily and Sardinia, where the summer drought may be remarkable, display a great variety of dry grassland types.

Dry grasslands habitats

The habitats of the European Directive 92/43/EEC that can be referred to dry grasslands belong to the group "Natural and semi-natural grasslands formations" that is divided in two groups based on the origin of the grasslands type. In Italy nine habitats of this group (Tab. 1) occur according to the recent national interpretation manual (Biondi et al. 2009).

These habitats are unevenly distributed in Italian regions. In fact, only some of them occur in most of the regions (6110*, 6170, 6210(*), 6230*), many are limited to the northern regions (6130, 6150, 6240*), the habitat 6220* can be found mainly in the peninsular regions, and the habitat 62A0 occurs only in the easternmost regions.

Habitat 6110* - This habitat includes open xerothermophilous pioneer communities in which small annual herbs and succulent species cohabit with mosses and lichens on rocky and stony substrata that often do not allow the development of more complex vegetation types. In Italy it can be found from the mesomediterranean to the supratemperate, and sometimes to the subalpine, belt. The substratum is generally carbonatic but these communities can develop also on ophiolites and volcanic rocks. This habitat has been recorded in all the Italian regions with the exception Sardinia, Sicily and Apulia.

In Italy, the most frequent species in this habitat are *Alyssum alyssoides*, *Arabis auriculata*, *Cerastium pumilum*, *C. semidecandrum, C. glutinosum*, *Hornungia petraea, Saxifraga tridactylites, Sedum acre*, *S. album*, *S. montanum* agg., *S. sexangulare, Sempervivum tectorum, Teucrium botrys*.

These communities can be referred to the alliance *Alysso alyssoidis-Sedion albi* (*Sedo-Scleranthetalia*, *Sedo-Scleranthetea*).

Habitat 6130 - The habitat includes near-natural, open vegetation (grasslands or open scrubs) of substrates rich in heavy metals (zinc, lead, nickel). In Italy they are mostly represented by vegetation occurring on ultramafic (mainly serpentine) rock outcrops. These grasslands show a discontinuous distribution, as they are linked to the occurrence of the specific bedrock. They are mainly distributed in Northern Apennines (Liguria, Tuscany, Emilia), where they have been studied in more detail. These communities host species, subspecies or ecotypes which may accumulate (e.g. *Thlaspi coerulescens, Alyssum bertolonii)* or tolerate *(Silene vulgaris, Minuartia laricifolia* subsp. *ophiolitica, Robertia taraxacoides etc.)* high concentration of heavy metals, giving rise to highly peculiar assemblages of uncertain phytosociological attribution. On the Alps (Western and, more locally, Central Alps), the occurrence of ultramafic bedrock gives origin to communities which can be ascribed to the corresponding ones developing on siliceous bedrocks; however, the significant occurrence of some differential species (e.g. *Carex fimbriata*) can be observed.

Habitat 6150 - In Italy, siliceous Alpine and boreal grassland include both natural herbaceous communities occurring above the timberline and semi-natural communities distributed below the upper limit of woody vegetation.

Above the timberline, primary herbaceous vegetation can be generally ascribed to the class *Caricetea curvulae*; and are mainly represented by sedge-dominated communities (*Caricetum curvulae* s.l.). Dry grasslands are generally restricted to ridges, south-facing slopes and other sites where the water balance is unfavourable due to topographic conditions. The most representative dry grasslands on crystalline substrata are those dominated by fescue species belonging to the *Festuca varia* complex (*Festucion variae*). These grasslands occur on steep, south-facing slopes, where soil evolution is negligible due to erosion and high insolation. They show a rich and rather homogeneous floristic composition, with many constant species (*Festuca* gr. *varia*, *Pedicularis tuberosa*, *Laserpitium halleri*, *Hypochoeris uniflora*, *Bupleurum stellatum*). They can also occur below the timberline and can be either interpreted as primary communities linked to edaphic limitation or as secondary grasslands due to regeneration failure after ancient deforestation (Fig. 3).

Ridges and siliceous rock outcrops host communities which can be interpreted as dry facies of *Caricetum curvulae*, with high cover values of *Juncus trifidus* and *Oreochloa disticha*; in case of good base availability in soil, these communities host *Elyna myosuroides*, *Antennaria carpathica*, *Lloydia serotina*, getting close to *Oxytropido-Elynion* communities (Habitat 6170).

Below the timberline, grasslands are restricted to sites where disturbance limits the establishment of woody vegetation. Such disturbance can be natural (debris flows, avalanche paths) or human-induced (grazing). In the first case, peculiar communities may establish, usually linked to good nutrient and water availability; such grasslands (alliance *Agrostion schraderanae*) could not be defined as "dry" grassland unless the coarse granulometry could cause local water deficit. In the second case, grazing may lead to Nardus stricta dominated grasslands (Habitat 6230*) or to local dominance of *Nardus stricta* within communities of habitat 6150. The distinction is not always easy, particularly in Central and Eastern Alps. In continental inner alpine valleys, extensive grazing and climate allow the establishment of highly diverse communities belonging to *Festucetum halleri*.

Habitat 6170 - This habitat includes alpine and subalpine grasslands occurring in the Alps and central and southern Apennines, usually above the timberline, which develop on soils deriving from carbonatic rocks. Just like the former, this habitat has been signalled in all the Italian regions with the exception of Sardinia, Sicily and Apulia.

Several sub-types have been described for this habitat based on environmental and geographic differences. However the following species can be considered as typically occurring in several sub-types of the habitat: *Dryas octopetala, Gentiana nivalis, G. campestris, Alchemilla flabellata, Anthyllis vulneraria* subsp. *alpestris, Aster alpinus, Draba aizoides, Globularia nudicaulis, Helianthemum nummularium* subsp. *grandiflorum, Pulsatilla alpina* subsp. *alpina, Phyteuma orbiculare*, *Polygala alpestris*.

In Italy the following sub-types can be identified of which the former can be referred to the class *Salicetea herbaceae*, while all the others to the class *Elyno-Seslerietea*: i) Boreo-Alpic calcareous snow-patch communities (*Arabidion coeruleae*, *Salicetalia herbaceae*); ii) closed calciphile alpine grasslands (*Seslerietalia caeruleae*, *Seslerion coeruleae, Caricion austroalpinae, Caricion ferrugineae*); iii) wind edge naked-rush swards (*Oxytropido-Elynion, Elynetalia myosuroidis*); iv) calciphilous stepped and garland grasslands (*Seslerion apenninae, Seslerietalia tenuifoliae*); v) oro-Apennine closed grasslands (*Ranunculo pollinensis-Nardion strictae, Nardetalia strictae*); vi) oro-alpine turfs, more or less continuous (*Seslerietalia coeruleae, Caricion firmae*; Fig. 4).

Fig. 3 *Festuca luedii (Festuca varia complex) dominated grassland in the Alps. Photo: M. Caccianiga.*

Fig. 4 *Carex firma dominated community in the Pre-Alps, Photo: M. Caccianiga.*

Habitat 6210(*) - The grasslands included in this habitat are mainly of secondary origin and characterized by a very high species density. These communities are dominated by hemicriptophytes and can develop on different types of substrata. Despite their presence in the northern regions, in Italy these grasslands show their largest occurrence along the Apenninic range, where, in the driest conditions, they may also be characterized by several chamaephytes.

Among the species more typically found in the Italian grasslands ascribed to this habitat we mention: *Bromus erectus*, *Anthyllis vulneraria*, *Arabis hirsuta*, *Campanula glomerata*, *Carex caryophyllea*, *Carlina vulgaris*, *Centaurea scabiosa*, *Dianthus carthusianorum*, *Eryngium campestre*, *Koeleria pyramidata*, *Leontodon hispidus*, *Medicago sativa* subsp. *falcata*, *Polygala comosa*, *Primula veris*, *Sanguisorba minor*, *Scabiosa columbaria*, *Veronica prostrata*, *V. teucrium*, *Fumana procumbens*, *Globularia elongata*, *Hippocrepis comosa.*

Most of the grasslands included in this habitat are referred to the order *Brometalia erecti,* in particular to the alliance *Phleo ambigui-Bromion erecti* endemic of the Apennine (Fig. 5), while for the Alps we can observe the alliances *Bromion erecti*, *Xerobromion erecti* and *Festuco amethystinae-Bromion erecti* for the dry grasslands of the westernmost Alps.

Although far less represented also subcontinental grasslands of the order *Festucetalia valesiacae* (*Cirsio-Brachypodion pinnati, Diplachnion serotinae)* occur in the country.

Habitat 6220* - Open xerophilous grasslands dominated by graminoids that develop on different substrata mainly in the coastal or subcoastal sectors of the peninsula. They can either be dominated by perennial or annual species.

The species that characterize the perennial communities are: *Lygeum spartum*, *Brachypodium retusum*, *Hyparrenia hirta* (Fig. 6), *Bituminaria bituminosa*, *Avenula bromoides*, *Convolvulus althaeoides*, *Ruta angustifolia*, *Stipa offneri*, *Dactylis hispanica*, *Asphodelus ramosus;* or *Poa bulbosa* for the subnitrophilous communities. In the annual communities the species most frequently found are *Brachypodium distachyum* (= *Trachynia distachya*), *Hypochoeris achyrophorus*, *Stipa capensis*, *Tuberaria guttata*, *Briza maxima*, *Trifolium scabrum*, *T. cherleri*, *Saxifraga trydactylites.*

Fig. 5 Bromus erectus dominated grassland rich in orchids, central Italy. Photo: E. Del Vico.

The different vegetation types that are included in this habitat are referred to the phytosociological classes: *Lygeo-Stipetea* (thermophilous perennial communities), *Poetea bulbosae* (perennial subnitrophilous communities), and *Helianthemetea guttati* (annual communities).

These vegetation types are related to very shallow soils, often patchy due to soil erosion. In fact this habitat includes very different communities, for some of which conservation measures are actually needed, on the other hand others are widespread in the Mediterranean areas of Italy and, since they derive from an extremely intensive land use, only few examples should be prioritized in conservation policies.

Fig. 6 *Hyparrhenia hirta community in central Italy. Photo: L. Facioni.*

Fig. 7 *Dry grassland dominated by Koeleria macrantha and Achnaterum calamagrostis with Hippophae rhamnoides in the Alps. Photo: M. Caccianiga.*

Habitat 6230* - This habitat includes closed grasslands dominated or co-dominated by *Nardus stricta* that develop on acid soils in rather flat areas from the hilly to the subalpine belt; the acid soils may either derive from silicate rocks or from carbonatic rocks through leaching.

The species typically found in this habitat are *Antennaria dioica, Arnica montana, Campanula barbata, Carex ericetorum, C. pallescens, C. panicea, Festuca ovina* (agg.), *Galium saxatile*, *Gentiana pneumonanthe, Hypericum maculatum, Hypochoeris maculata*, *H. uniflora, Lathyrus montanus, Leontodon helveticus, Leucorchis albida, Meum athamanticum, Nardus stricta, Platanthera bifolia*, *Polygala vulgaris, Potentilla aurea, P. erecta, Veronica officinalis, Viola canina.*

These communities are referred to the order *Nardetalia strictae* (cl. *Nardetea strictae*) and to the alliances *Violion caninae*, *Nardo-Agrostion tenuis* and *Ranunculo-Nardion*.

They are typically of secondary origin and especially related to grazing, if this activity ceases the descrived *Nardus stricta* grasslands are invaded by woody species ranging from *Calluna vulgaris* to *Betula pendula*, *Corylus avellana*, *Populus tremula*, *Fagus sylvatica*, *Pinus sylvestris*, *Picea abies, Larix decidua* and *Pinus cembra.* Where the water availability is higher these coenoses can be invaded by *Deschampsia caespitosa* which tend to form monospecific communities.

Habitat 6240* - This habitat includes steppic grasslands, restricted to the dry, steppic inner Alpine valleys, belonging to *Festucetalia valesiacae*. They are distributed along the whole Alpine range, even if they are particularly well expressed in Val Venosta and Valle d'Aosta. They are linked to dry, south facing or wind-exposed slopes with thin soil (Fig. 7). They can be considered as secondary grasslands, mainly formed by sheep and goat grazing, although their ecological setting makes them rather stable even after the cessation of human activities. Also fire can be considered as a stabilising factor for these communities, particularly at lower elevations. In the most extreme environmental conditions (steep slopes or rock outcrops), grasslands ascribable to this habitat type could be considered as primary communities.

These grasslands are dominated by many tussock grasses and sedges such as *Festuca valesiaca*, *Stipa pennata*, *S. capillata*, *Bothriochloa ischaemum*, *Carex humilis*; shrub species are often present, like *Juniperus sabina*, *Ephedra helvetica*, *Hippophaë rhamnoides*. At lower altitude or in less extreme conditions these communities are close to those belonging to the Habitat 6120*, with which they share many species, like *Carex humilis*.

Habitat 62A0 - This habitat includes grasslands distributed throughout the sub-Mediterranean zones of north-eastern Italy (westwards to the Prealps of Lombardy at least to Garda and Iseo Lakes), and of South-Eastern Italy (Molise, Apulia and Basilicata). These grasslands grow on thin, well-drained, infertile lime-rich soils, and may also occur on coarse fluvial deposits or on sandy coasts (Veneto, Friuli).

In the Pre-Alps, the boundary with the ecologically similar grasslands belonging to the habitat 6120* is often unclear. Here, these grasslands are characterised by the physiognomic dominance and/or the occurrence of *Chrysopogon gryllus*, *Bromus condensatus*, *Plantago argentea*, *Satureja montana* subsp. *variegata* and can be divided into the alliances *Scorzonerion villosae* e *Saturejion subspicatae*, occurring on relatively deep and thin soil, respectively.

In Southern Italy these grasslands are rich in Mediterranean elements and belong to the endemic alliance *Hippocrepido glaucae-Stipion austroitalicae*, characterised by *Stipa austroitalica* subsp. *austroitalica*, *Scorzonera villosa* subsp. *columnae*, *Thymus spinulosus*, *Hippocrepis glauca*.

Together with 6210(*), the grasslands belonging to this habitat are among the most species-rich plant communities; furthermore, they are always rich in endemic species and often host a rich suite of orchid species (e.g. *Himantoglossum adriaticum*, *Ophrys* spp., *Orchis* spp.).

Except where they occur on rocky outcrops with thin or almost absent soil, these grasslands could be considered as secondary communities replacing deciduous or evergreen calcicolous forests; they are thus more or less susceptible to scrub invasion after the decline or the abandonment of the traditional agricultural activities.

The described habitats are all equally subjected to the threat of land use/land cover change that is common to several grasslands habitats in Europe, especially in mountain areas (MacDonald et al. 2000). Indeed, in Italy the areas mapped as pastures and grasslands decreased from 18.72 to 9.23% in the period 1960-2000 balanced by a strong increase of forest areas (Fig. 8). This change was particularly evident in the Apennine, in the coastal areas and in Sardinia, however also in the Alps there was a significant decrease in pasture and grasslands (Falcucci et al. 2007).

The variety of habitats occurring in the country and the rapid land use/land cover changes that involve just the areas where grasslands and pastures are more widespread highlight the need for active conservation policies for dry grasslands habitats through the promotion of the traditional management practices that contributed to the maintenance of these habitats.

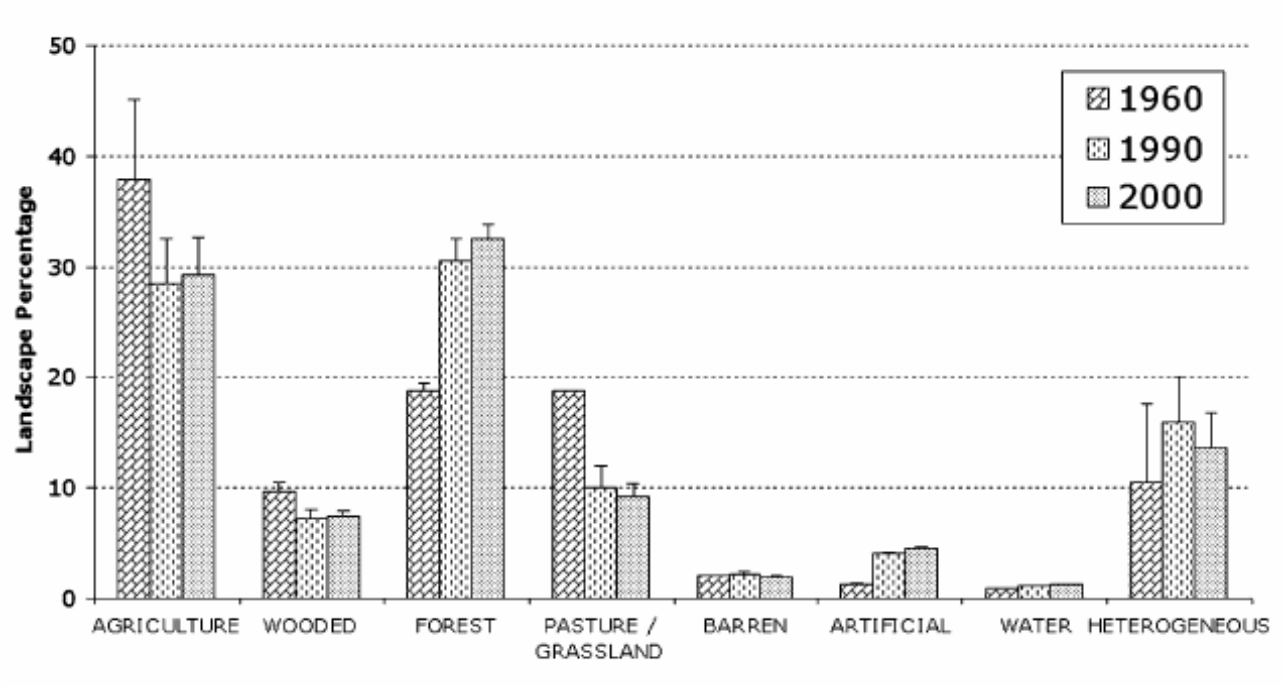

Fig. 8 Percentage of the Italian territory occupied by the different land-use/land-cover classes according to the maps realized in the period 1960-2000 from Falcucci et al. (2007).

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High Nature Value Grasslands: securing the ecosystem services of European farming post 2013

International Conference, 7-9 September, Sibiu, Romania

HNV farming plays a key role in providing a wide range of ecosystem services vital to the long term future of Europe. The conference proposed EU strategies for maintaining HNV farming and grasslands, so securing vital ecosystem services for the benefit of all Europe's citizens. The conference was held at a crucial moment in European policy-making. The EU Commission's views on the new Common Agricultural Policy 2013-2020 will be announced later this year by DG Agriculture. The European Forum on Nature Conservation and Pastoralism and Fundatia ADEPT Transylvania were joint organisers. Several EDGG members attended, including Monika Janišová of the organizing committee. EDGG also is a signatory of the conference conclusions (see end of article).

The main conference messages were:

- ♠ HNV farming systems play a vital role in a wide range of ecosystem services.
- ♠ However, these farming systems are under threat.

The recognition of the economic value of the public goods that HNV farming systems deliver should be followed by policies, especially in the CAP post 2013, better targeted towards protecting HNV farming systems and paying HNV farmers for the ecosystem services they deliver.

To achieve this win-win of sustainable landscapes delivering wide environmental and social benefits, a wholesale reform of the CAP is needed: redistribution of funding from "conventional" systems dependent on heavy use of fossil fuels and fertilisers to those which support the ecosystem services which are very valuable to society, but which are poorly rewarded by the market. Without such changes, we risk moving further from the European model of "multifunctional" agriculture delivering multiple benefits, towards the extremes of intensive agriculture in some areas and abandoned rural spaces in others.

HRH The Prince of Wales, European Commissioner for Environment Janez Potočnik, and European Commissioner for Agriculture and Rural Development Dacian Cioloş, all sent special video messages to the conference, supporting the conference objectives of bringing agricultural and environmental policies together to deliver the public goods that Europe needs and that Europe's citizens want to see from the new CAP.

The field trip took place between the two plenary discussion days, so that problems illustrated during the field trip could contribute to policy discussions the following day. The excursion visited a number of sites the Saxon Villages area, a typical HNV landscape and, since December 2008, part of an 85,000 ha Natura 2000 site (SCI), much of which has suffered a combination of both overgrazing and abandonment of traditional farming.

First stop was to examine the distinctive hummocks of clay and sand, or *movile*, which are a feature of the region. The rich flora on the hummocks is a mix of widespread, steppic and Mediterranean species, also montane elements such as *Sesleria heufleriana*, and including rarities Red-listed Romania such as several orchids and *Adenophora liliifolia* and *Iris aphylla*, both listed on Annex II of the EU Habitats Directive. The surrounding terrain is former arable land now grazed or cut for hay and being recolonized by some typical *movile* plant species.

The next stop was at Saschiz, some 15 km beyond Sighisoara, where we visited the headquarters of ADEPT, an opportunity to see something of the organization's activities, including the model food-processing barn, and to buy local products such as jams and pickles ('bottled bodiversity'). We then proceeded a little way south to the hills around Viscri, where, divided into three groups, we left the buses to visit working sheepfolds or *stâne*. Here we enjoyed a light lunch of village bread, sheep cheeses made on-site and home-distilled *palinca* or plum brandy, and were able to ask the shepherds and their family questions about their life, hopes for the future and how they manage the countryside.

The *stâna* was an opportunity to observe directly how this impressive HNV grassland-dominated, traditionally managed landscape provides vital ecosystem services:

- Clean water and food security
- Biodiversity conservation
- Carbon sequestration
- Resistance to climate and other environmental change
- Resilience to fires, floods and landslips
- Recreation and cultural/aesthetic/spiritual values

The pastures (*c.* 25% of the Scroafa Valley is communal pasture owned by the Town Hall) and meadows (*c.* 20% is hay-meadow, either communal or owned by households) are the motor of the rural economy, yielding hay, milk, cheese, meat, honey and medicinal herbs. The hay-meadows especially are a repository of biodiversity, including numerous legumes and other wild crop relatives, and the massed, varied wildflowers themselves are a cultural treasure of inestimable value.

The pastures and meadows are distinguished by law as well as by traditional management. Rising sheep numbers and rapidly falling cow numbers have disrupted this distinction, a significant factor in maintaining the efficient management and rich biodiversity of the grasslands. In autumn the flora showed but little of its summer glory, although a few late flowers did brighten the grasslands – including Meadow Saffron (*Colchicum autumnale*), bellflowers (*Campanula* spp.), knapweeds (*Centaurea* spp.), Wild Carrot (*Daucus carota*), self-heals (*Prunella* spp.) and Yellow Scabious (*Scabiosa ochroleuca*), even the rarer Transylvanian Scabious (*Cephalaria radiata*), endemic to Transylvania. The total flora of the SCI comprises some 1,100 species!

After these fascinating sheepfold visits, we moved on to Viscri itself (many of us choosing to walk), where ADEPT had arranged that several farm courtyards be open and available for visiting and further opportunities to talk to members of the local farming community. We also explored the village, especially the impressive fortress-church, which provided an appropriate backdrop to the group photographs.

The day ended with a superb pork supper in a Saxon barn – a local pig slaughtered specially for the occasion, with more *palinca* and village wine. The group returned late to Sibiu, having experienced something of the unique human and natural atmosphere, and living rural economy, of the Scroafa Valley and the Saxon Villages. Loss of, or widespread damage to, the traditional grasslands would cause irretrievable damage to this wonderful landscape, its vital ecosystem services and the sustainable farming communities that have maintained it wisely and diligently for centuries.

Further details may be found at the www.fundatia-adept.org, especially:

Conference presentations: http://www.fundatia-adept.org/?content=conference_presentations

Conference brochure: http://www.fundatia-adept.org/bin/file/conference2010/HNV_conference_brochure1.pdf

Conference policy document: http://www.fundatia-adept.org/bin/file/conference2010/Policy%20document.pdf

Conference conclusions signed by leading conservation NGOs including EDGG: http://www.fundatia-adept.org/bin/file/conference2010/Conference_conclusions_final(1).pdf

These documents, and the NGO alliance that the conference has helped to create, will all contribute to advocacy of HNV-targeted CAP reforms which will continue over the next few months.

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Traditional haymaking in southern Transylvania, Romania. Photo: J. Dengler.

The third SEEDGG research expedition

16-26 July 2011, Bulgaria

Regions:

1. Vratsa Mountain
2. The area between the Balkan range and Sredna Gora Mountain

Topic:

Situated in South-Eastern Europe, Bulgaria falls under a number of different bioclimatic influences and hence it hosts very diverse vegetation. Xerophytic and xero-mesophytic grasslands prevail in selected regions, yet available data and comprehensive analyses of these habitats are still rather limited.

Aims:

We expect that the data collected during the expedition will provide opportunity for large-scale analyses and comparison with other similar vegetation types on European level. We propose to sample the variety of dry grassland types within the selected regions using standard phytosociological methods as well as nested-plot sampling strategy in order to identify biodiversity patterns at different scales. An important aim is also to gather EDGG members to share knowledge and skills and to prepare scientific papers.

Organizers:

Vegetation and Habitats Research Group of the Institute of Biodiversity and Ecosystem Research – Sofia
Jürgen Dengler – Biocentre Klein Flottbek and Botanical Garden, University of Hamburg

Contacts:

Iva Apostolova – iva@bio.bas.bg
Kiril Vassilev – kiril5914@abv.bg
Jürgen Dengler – dengler@botanik.uni-hamburg.de

Transport:

The expedition will start from Sofia with organized bus transport for the whole journey.

Accommodation:

5 nights will be spent in Ledenika hut in Vratsa Mountain and 5 in the historic town of Koprivshtitsa.

Number of participants:

Apart from the organizers and the bus driver, there are 13 more places for EDGG members to join this expedition.

More information about the expedition will be provided in the next EDGG Bulletin. Reports on previous expeditions of the group are published in issues 4 and 8 of the Bulletin.

Grasslands in the area of Sredna Gora Mountain and accommodation place in 19th century house in Koprivshtitsa.

Centaurea chrysolepis on dry calcareous slopes of the Vratsa Mountain.

View from the Vratsa Mountain.

Potential EDGG Meeting in Greece (June 2012)
A short introduction to the Prespa area

The 9th European Dry Grassland Meeting is planned to be held in Greece under the auspices of Hellenic Rangeland and Pasture Society (HE.R.PA.S., www.elet.gr) and the support of Society for the Protection of Prespa (SPP, www.spp.gr). The meeting will be held in Laimos village of Prespa basin, north-west Greece, close to the borders with Albania and F.Y.R.O.M.

The main topic and the subtopic(s) of the conference will be decided later.

The text below gives a short introduction to the Prespa area:

Prespa is the name of two freshwater lakes (Micro and Macro Prespa) in southeast Europe, shared by Greece, Albania, and F.Y.R.O.M. Of the total surface area, 190 km² belongs to F.Y.R.O.M., 84.8 km² to Greece and 38.8 km² to Albania. They are the highest tectonic lakes in the Balkans, standing at an altitude of 853 m.

The area of the lakes of Micro and Macro Prespa were declared a National Forest after the Greek Presidential Decree 46/1974, and it was recently declared a National Park. According to the European Habitats Directive 92/43, the National Park of Prespa includes the Natura 2000 sites "*ETHNIKOS DRYMOS PRESPON (National Park of Prespa)*" *(GR 1340001)* and *"ORI VARNOUNTA (Mount Varnous") (GR 1340003)* which cover the whole of the Prespa Lakes basin in its Greek part.

The Natura 2000 site of "Mount Varnous" is a mountainous area (minimum elevation 1400 m, mean 1700 m, maximum 2334 m) of 6126 ha. The parent rock is granites of the Pelagonic geological zone and the climate is primarily continental. At the higher reaches of the area, the springs of the stream of Agios Germanos (that discharges into Lake Macro Prespa) are found. Due to these climatic and edaphic conditions the area is distinguished for its high floristic value as 83 plant taxa are recognized as *important*; 29 of them are Balkan endemics, 8 are found mostly in Balkans and occasionally in Turkey and Italy, 6 are Greek endemics, 1 taxon is a local endemic, 1 is protected by the Bern Convention (1979), 7 are included in the European Red Data List of the World Conservation Monitoring Centre, 13 are protected by the PD 67/1981, and 19 are considered as *rare*, or as prone to *extinction*. The site is characterized by 15 habitat types of the Natura 2000 network, with 7 of them being habitat types mentioned in the Directive 92/43/EEC, while 2 are European priority habitat types (**6230 Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe*). It is expected that in combination with the unique flora, the site is characterized by its unique fauna, with important representative species of raptors (e.g. golden eagle), mammals (e.g. brown bear, wolf), reptiles, amphibians, the endemic trout *Salmo peristericus* Karaman and thus by an imperative need to conserve its natural resources. The natural landscape is filled with characteristic anthropogenic elements like traditional architecture, watermills, and evidence of the nomadism that flourished in the past.

6230 Species-rich Nardus grasslands on siliceous substrates in the Mount Varnous. Photo: M. Vrahnakis.

The Natura 2000 site of the "National Park of Prespa" includes the lakes Micro and part of Macro Prespa separated by a sandy bar of alluvial deposits and surrounded by high mountains. Extensive reedbeds of *Phragmites australis*, *Typha angustifolia*, *Scirpus lacustris*, *Carex* spp., occupy the margins of lakes. There are, also, characteristic formations of rooted aquatic plants with large floating leaves, often with a stratum of submerged species (*Ceratophyllum*, *Myriophyllum*, *Potamogeton*). As a result of the wide variety of biotopes and topography the site has a very rich flora and fauna as well as a diversity of habitats. The lakes are important for breeding water birds. In total many bird species have been observed in the lakes and in the surrounding forests. Particularly important are the colonies of *Pelecanus crispus* and *P. onocrotalus*. The area is rich in historic and religious monuments. The ichthyofauna of these lakes is significant because of the high degree of endemism. Concerning the fauna, the quality of the site is indicated by the occurrence of the invertebrate *Pseudochazara geyeri* which is the western edge of extension and the invertebrate *Kirinia climene*. Concerning the wild growing plants, the quality of the site is indicated by the occurrence of important taxa. Among them, 4 taxa are Greek endemics, 10 taxa are included in the WCMC and/or European Red Data list, 9 taxa are protected by state's Presidential Decree, one taxon is rare in Greece and 15 taxa are Balkan endemics. The site is characterized by 25 habitat types, 14 of them being habitat types of the Natura 2000 network, with 4 of them being priority habitat types (*6210 *Semi-natural dry grasslands on calcareous substrates (Festuco Brometalia), *6220 Pseudo-steppe with grasses and annuals (Thero-Brachypodietea),* *6230 *Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe*), and **9562* Grecian *juniper woods*).

Michael Vrahnakis, Karditsa, Greece
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9562 Grecian juniper (Juniperus excelsa) woods on limestone and 72A0 reed beds in the west shore of Lake Micro Prespa, Greece. Photo: M. Vrahnakis.

Forthcoming events

5th International Conference of the International Biogeography Society

7–11 January 2011, Crete, Greece

www.biogeography.org/html/Meetings/2011.html

20th Workshop of European Vegetation Survey

6–9 April 2011, Roma, Italy

Contact and details: staff@evsitalia.eu, www.evsitalia.eu

Regional workshop SALVERE project on Ecological Restoration

18–20 May 2011, Bernburg, Germany
Details: www.offenlandinfo.de

8th European Dry Grassland Meeting

13–17 June 2011, Uman, Ukraine

Contact: Anna Kuzemko (anya_meadow@mail.ru)

Details: see Bulletin of the EDGG 8, pp. 3–6

Dry grassland diversity in Poland

2–4 June 2011, Lublin, Poland
Contact: Anna Cwener (murawy2011@wp.pl), Piotr Chmielewski (pchmielewski4@wp.pl)

Deadline for the registration: 31 December 2010

54th Symposium of International Association for Vegetation Science

20–26 June 2011, Lyon, France

Details: http://iavs2011.univ-lyon1.fr/en

3rd SEEDGG research expedition
16–26 July 2011, Bulgaria

Contacts: Iva Apostolova: iva@bio.bas.bg, Jürgen Dengler: dengler@botanik.uni-hamburg.de

Details: see this Bulletin issue, pp. 14–15

8th World Congress of International Association for Landscape Ecology

18–23 August 2011, Beijing, China

Details: www.iale2011.org/index.asp

4th World Conference on Ecological Restoration

21–25 August 2011, Merida, Mexico

Details: www.ser2011.org/en/

Annual Meeting of the British Ecological Society

12–14 September 2011, Sheffield, UK

12th Congress of European Ecological Federation

25–29 September 2011, Ávila, Spain

www.eefcongress2011.eu/

International Congress on Conservation Biology

29 Nov.–2 December 2011, Christchurch, New Zealand

Poecilimon sp., Transylvania, Romania. Photo: J. Dengler.

Salvia nutans, Transylvania. Photo: J. Dengler.

Forum

A standardized method to assess the conservation status of grassland habitats at a Natura 2000 site level

The favourable conservation status of the natural habitats and species of Community interest is the aim of the "Habitats" directive. Aside from the European evaluation, in France according to the 'Code de l'environnement' (i.e. French law), this conservation status must also be evaluated for each site of the Natura 2000 network.

A French standardized method to assess the conservation status at a site level has been set up for forest habitats by the National Museum of Natural History (Carnino, 2009). We would like to set up a standardized method to assess the conservation status of grasslands habitats in all the Natura 2000 sites in France (we are considering the fact that we will certainly need to find separate parameters according to the type of habitats, and the contexts). Assessment of conservation status is a concern all over Europe and we would like to benefit from your experiences, therefore we would like to collect all methods, experiences or any others references that can help us to choose parameters and criteria to assess conservation status.

If you are interested in this project, or if you want to help us by sending all kind of information, please contact me:

Lise Maciejewski, Maciejewski@mnhn.fr

Recent publications of our members

Syntaxonomy of dry grasslands

Mucina L., Dengler J., Bergmeier E., Čarni A., Dimopolous P., Jahn R. & Matevski V. (2010): New and validated high-rank syntaxa from Europe. Lazaroa 30: 269–278.

Methodology, classification, databases

Dengler J. & GIVD Steering Committee (2010): GIVD, a new ecological metadatabase. Frontiers of Biogeography 2: 70.

Dengler J., Löbel S. & Dolnik C. (2009): Species constancy depends on plot size – a problem for vegetation classification and how it can be solved. Journal of Vegetation Science 20: 754–766.

Jansen F. & Dengler J. (2010): Plant names in vegetation databases – a neglected source of bias. Journal of Vegetation Science 21: 1179–1186.

Michl T., Dengler J. & Huck S. (2010): Montane-subalpine tall-herb vegetation (*Mulgedio-Aconitetea*) in central Europe: large-scale synthesis and comparison with northern Europe. Phytocoenologia 40: 117–154.

Biodiversity

Dengler J. (2009): Which function describes the species-area relationship best? – A review and empirical evaluation. Journal of Biogeography 36: 728–744.

Dengler J., Oldeland J. (2010): Effects of sampling protocol on the shapes of species richness curves. Journal of Biogeography 37: 1698–1705.

Piwowarczyk R., Chmielewski P., Gierczyk B., Piwowarski B. & Stachyra, P. (2010): *Orobanche pallidiflora* Wimm. & Grab. in Poland: distribution, habitat and host preferences. Acta Societatis Botanicorum Poloniae 79 (3): 197–205.

Conservation and restoration

Ruprecht E., Szabó A., Enyedi M. Z. & Dengler J. (2009): Steppe-like grasslands in Transylvania (Romania): characterisation and influence of management on species diversity and composition. Tuexenia 29: 353–368 + 1 table.

Török P., Deák B., Vida E., Valkó O., Lengyel Sz. & Tóthmérész B. (2010): Restoring grassland biodiversity: sowing low diversity seed mixtures can lead to rapid favourable changes. Biological Conservation 143: 806–812.

Török P., Kelemen A., Valkó O., Deák B., Lukács B. & Tóthmérész B. (2010): Lucerne-do minated fields recover native grass diversity without intensive management actions. Journal of Applied Ecology, doi: 10.1111/j.1365-2664.2010.01903.x

Valkó O., Török P., Tóthmérész B. & Matus G. (2010): Restoration Potential in Seed Banks of Acidic Fen and Dry-Mesophilous Meadows: Can Restoration Be Based on Local Seed Banks? Restoration Ecology, doi: 10.1111/j.1526-100X.2010.00679.x

Reports and other topics

Jandt U., Becker T., Dengler J. & Janišová M. (2010): Dry grasslands: species interactions and distribution – Editorial to the Special Feature with contributions from the 6th European Dry Grassland Meeting 2009 in Halle (Saale). Tuexenia 30: 349–355.

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Podarcis sicula, Italy. Photo: J. Dengler

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Important dates: *The deadline for Bulletin 10 is 20 February 2011*
Bulletin 10 to appear: March 2011
Bulletin 11 to appear: June 2011