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Dear members of the Eurasian Dry Grassland Group,

We are pleased to present the new issue of the EDGG Bulletin, which comprises the invitation for the next EDGG Field Workshop in the Central Apennine mountains, in Italy. EDGG Research Expeditions/Field Workshops have been conducted annually since 2009, and have contributed to the development of a large body of standardized data. This issue includes a call for data to be added to this dataset, which would be used for analyses of biodiversity patterns and their drivers across biogeographical gradients.

The Bulletin also includes the Minutes of the General Assembly of the EDGG, which took place during the EGC in Sighisoara in September 2016. One of the most important contributions in this issue is a paper about the impact of military conflicts on the steppe protected areas of Ukraine. This detailed analysis warns the international scientific community about the negative impacts on all steppe protected areas in Ukraine caused by military operations or exercises and other factors stemming from the unstable political situation in the country. But there is also room for hope, as we also include two short contributions looking on the bright side. The first one informs us about a new project to support the Steppe national nature parks of Ukraine, and the second about the success in the Ukrainian Court of the Appeal to stop the destruction of the Tarutyns'kyj steppe.

In this issue we want to relaunch the section devoted to the recent publications of our members. This section is open to all EDGG members, so once more we want to invite all of you to send us your grassland-related papers, so that they can be included in this section in the future issues. Finally, we would like to take the opportunity again to emphasize that the Bulletin welcomes submissions of scientific articles (in the form of Research papers, Forum papers, Reviews or Reports). While we do not provide peer-review, we do offer linguistic editing after acceptance, and your paper will achieve high visibility because the Bulletin is open access and distributed to more than 1000 grassland specialists throughout the world. You can find the author guidelines from the EDGG homepage.

We hope that reading the Bulletin will inspire you to new ideas and discoveries that, in turn, will find their place on the pages of future issues.

We wish you a Happy New Year,

Anna Kuzemko, Idoia Biurrun & the Editorial Board

At the top:

Jasione montana, Germany. Photo: J. Dengler.



The basic aims of the EDGG are:

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

To achieve its aims, the EDGG provides seven instruments for the exchange of information among 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 Eurasian Grassland Conference** - organized annually at different locations throughout the Palaearctic Realm;
- **EDGG research expeditions and field workshops** to sample baseline data of under-represented regions of Palaearctic Realm;
- **EDGG vegetation databases**;
- **Special Features** on grassland-related topics in various peer-reviewed journals.

Eurasian Dry Grassland Group (EDGG)

The **Eurasian Dry Grassland Group (EDGG)** is a network of researchers and conservationists interested in any type of Palaearctic natural and semi-natural grasslands. It is an official subgroup of IAVS (<http://www.iavs.org>) but one can join our group without being an IAVS member. We live from the activities of our members. Everybody can join the EDGG without any fee or other obligation.

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.

To become a member of the Eurasian Dry Grassland Group or its subordinate units, please send an e-mail to Idoia Biurrun, including your name and complete address, and specify any of the groups you wish to join. More detailed information can be found at:

http://www.edgg.org/about_us.htm

As of 4th January 2017, the EDGG had 1173 members from 66 countries. While we are well-represented in most European countries, though with some few European countries still under represented, the extra-European part of the Palaearctic realm (which according to our Bylaws is included in the geographic scope of the EDGG!) is still grossly underrepresented.

EDGG Subgroups

The members are automatically included in the regional subgroup of the region in which they reside. If you additionally wish to join the Topical Subgroup on Grassland Conservation and Restoration, just send an e-mail to the Membership Administrator (idoia.biurrun@ehu.es or Stephen.Venn@Helsinki.Fi).

Arbeitsgruppe Trockenrasen (Germany) (contact: Thomas Becker - beckerth@uni-trier.de), Ute Jandt - jandt@botanik.uni-halle.de: 250 members

Working Group on Dry Grasslands in the Nordic and Baltic Region (contact: Jürgen Dengler - juergen.dengler@uni-bayreuth.de): 100 members

South-East European Dry Grasslands (SEEDGG) (contact: Iva Apostolova - iva@bio.bas.bg): 298 members

Mediterranean Dry Grasslands (Med-DG) (contact: Michael Vrahnakis - mvrahnak@teilar.gr): 323 members

Topical Subgroup Grassland Conservation and Restoration (contact: Péter Török - molinia@gmail.com): 72 members

EDGG Executive Committee and responsibilities of its members

Didem Ambarlı: Editor-in-Chief of homepage, Deputy Conferences Coordinator, didem.ambarli@gmail.com

Idoia Biurrun: Membership Administrator, Deputy Editor-in-Chief of Bulletin, Deputy Field Workshop Coordinator, Deputy IAVS Representative, Deputy Editor-in-Chief of homepage, idoia.biurrun@ehu.es

Jürgen Dengler: Coordinator for Special Features; Field Workshop Coordinator, juergen.dengler@uni-bayreuth.de

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Michael Vrahnakis: Conferences Coordinator, Policy Officer, Deputy Contact Officer to other organizations, mvrahnak@teilar.gr

Invitation to the 10th EDGG Field Workshop “Biodiversity patterns across a precipitation gradient in the Central Apennine mountains” Italy, 3-11 June 2016

Introduction

EDGG Research Expeditions have been carried out since 2009, when the first one was conducted in Romania (Dengler et al. 2009). The 2nd expedition, in 2010, went to Ukraine (Dengler et al. 2010), the 3rd to Bulgaria (Apostolova et al. 2011). In 2012, there were two such expeditions, one to Sicily (Guarino et al. 2012), and one to Greece (Dengler & Demina 2012). In 2013 the expedition reached Central Asia (Janišová et al. 2013). Since 2014, under the new name “Field Workshop”, the expeditions have taken place in Spain (Biurrun et al. 2014), Poland (Kącki et al. 2014) and Serbia (Dajić Stevanović et al., 2015).

The aims of these international workshops are to sample high-quality data on composition and biodiversity patterns of dry grasslands and related communities in understudied regions of the Palaearctic, to use these data for joint publications in international journals, and to exchange knowledge (species determination, field sampling, analytical methods) among participants with different background. A number of papers on ISI journals have already been published from some of the previous expeditions (Dengler et al. 2012a, Pedashenko et al. 2013, Turtureanu et al. 2014, Kuzemko et al. 2014, 2016, Polyakova et al. 2016); several other papers from various expeditions are in preparation (see also Dengler et al. 2016a for a comparative overview of the data collected so far).

The 10th EDGG workshop will take place from June 3rd to June 11th 2017 in Italy.

Philosophy and methodology of the EDGG workshops

The EDGG Field Workshops are *very intensive events* of typically 7–12 days duration, *restricted to a small group of highly motivated participants*. They contain a mixture of oral presentations, methodological discussions, and joint field sampling with advanced sampling methods. The core aims of the EDGG Field Workshops are knowledge exchange and capacity building among scientists from various countries

regarding planning of observational studies on multi-taxon biodiversity patterns (vascular plants, non-vascular plants, animals), species determination, field/statistical techniques, vegetation classification approaches and scientific writing.

The field data collected will subsequently be used for joint publications in ISI journals by the participants, which will be planned during the Field Workshop. Later they will contribute to publically accessible vegetation-plot databases (Database Scale-Dependent Phytodiversity Patterns in Palaearctic Grasslands, GIVD ID EU-00-003; Dengler et al. 2012b).

The sampling design is the same as that of the nine previous EDGG Research Expeditions/Field Workshops (and several other studies) to allow large scale comparisons (Dengler et al. 2016a). Its core points stem from a proposal by Dengler (2009). The up-to-date and detailed protocol has been recently published in this Bulletin (Dengler et al. 2016b). We use intensive nested plot sampling, covering plot sizes of 0.0001, 0.001, 0.01, 0.1, 1, 10 and 100 m², complemented by supplementary 10-m² plots. In both cases, all terricolous vascular plants, bryophytes and lichens are recorded, and for the 10-m² (sub-) plots also percentage cover of species and environmental data (slope, aspect, microrelief, soil depth) are noted, while a mixed soil sample to be analysed in the lab and biomass samples are collected. In the 10th field workshop, we are planning to introduce some methodological developments such as some simple quality assessment (QA) procedures, i.e. to obtain estimates of the average pseudo-turnover (generated by inherent inter-observer discrepancies) in the dataset and include the results of this in the subsequent publications. Although QA procedures may be very time-consuming, a reasonable trade-off could be double-sampling 10% of the 10-m² plots.

Suggestions from participants regarding additional data collection (such as trait measurements) and fieldwork that could be incorporated into the workshop programme are welcome and can be discussed with the organizers. We particularly encourage zoologists among our members to join in

order to sample invertebrate taxa on the same plots (e.g. snails, grasshoppers, etc.).

EDGG Field Workshops are open to EDGG members at any academic level. Particularly welcome are PhD students and young Postdocs who plan to do field sampling of grassland vegetation and wish to discuss their sampling ideas before they start.

Participants may optionally decide to give an oral presentation – this becomes mandatory only if you want to apply for an IAVS travel grant. There are three types of oral presentations: (1) key note lectures by the Workshop organizers on the study area and on sampling methodology; (2) presentations by participants about results from similar studies (10 min presentation + 5 min discussion); (3) presentations about concepts/methods of emerging studies (e.g. PhD projects) at early stages (10 min presentation + 15 min discussion). Presentations of methodological approaches in the field are also welcome.

The 10th Field Workshop of the EDGG

In 2017, the EDGG Field Workshop will take place in “Abruzzo Lazio & Molise” National Park and surrounding areas (Central Apennine mountains, Italy; approx. 100 km East of Rome, Fig. 1) from Saturday, June 3, to Sunday, June 11.

This event is organized by Goffredo Filibeck and Laura Cancellieri (University of Tuscia, Viterbo), supported by Marta G. Sperandii (University of Roma Tre) and with the kind help, for surveying some specific locations, of Anna Rita Frattaroli (University of L’Aquila) and other local scientific experts; and in cooperation with Jürgen Dengler (EDGG Executive Committee, University of Bayreuth & German Centre for Integrative Biodiversity Research) and Idoia Biurrun (EDGG Executive Committee, University of the Basque Country).

The main research aim will be sampling plant richness patterns across a continentality gradient. Because of rain-shadow effect, some inner valleys of Abruzzo (e.g. the Fucino basin and the Aterno valley) feature low precipitation values. This situation is somewhat similar to the well-known “dry valleys” of the Alps (e.g. Schwabe & Kratochwil 2004; Wiesner et al. 2015), but while in the Alps the precipitation regime is centred in summer, in the Central Apennines there is a sub-Mediterranean climate with summer drought or at least with a summer rainfall minimum (Gerdol et al. 2008; Blasi et al. 2014). The grassland vegetation in these Apennine inner basins is made up of a very interesting mixture between steppic (e.g. *Stipa capillata*, *Sideritis italica*, *Crocus reticulatus*, *Androsace maxima*, *Linum austriacum* subsp. *tommasinii*) and Mediterranean (e.g. *Artemisia alba*, *Convolvulus elegantis-*



Fig. 1. Study area position (white square).



Photo 1. Apennines “dry valleys”: old almond groves and pastures in the Fucino basin, at the foothills of Monte Velino massif. Photo: G. Filibeck.



Photo 2. *Phlomis fruticosa*, an Eastern-Mediterranean species found as a xerothermic relict near Pescina in the Fucino basin. Photo: M.G. Sperandii.

simum, *Hyparrhenia hirta*, *Phlomis fruticosa*, *Stipa capensis*) taxa, leading to high species richness.

Thanks to high-resolution interpolated climatic data provided by a leading research group in climatology (Michele Brunetti and coll., Institute of Atmospheric Sciences and Climate, Bologna), we will be able to sample grasslands across a very steep precipitation gradient: keeping both bedrock (limestone) and elevation (sub-montane belt, between c. 800-1200 m a.s.l.) constant, we will move from the above-described dry valleys (featuring a mean annual precipitation of 600-700 mm) to the W-facing “oceanic” slopes of the Apennines (precipitation 1300-1500 mm/yr). The whole gradient is often compressed in less than c. 15 km in a straight line.

Our vegetation sampling will be complemented by entomological sampling performed by two specialists of *Auchenorrhyncha* (leafhoppers and planthoppers). Experts of other invertebrate taxa that are appropriate to be sampled within vegetation quadrats are welcome to join.

Preliminary itinerary (Fig. 2)

June 3: Meeting the group at Rome Fiumicino airport (meeting time will probably be 12 noon). Transfer by minibus to Pescara (Fucino basin, Abruzzo). Hotel check-in, then move to a nearby dry grassland area for protocol explanation, methodological discussion, floristic training and “calibration” of the participants with simulated plots. In the evening, keynote presentations about study area in the hotel meeting room. Night in Pescara.

June 4: Field work in L’Aquila basin grasslands (very low-rainfall area with rare steppic relicts). Night in Pescara.

June 5: Field work in the Monte Velino foothills (low- to intermediate-rainfall area, with both steppic relicts and Mediterranean extrazonal species). In the evening, first round of participants’ presentations. Night in Pescara.

June 6: Field work in the Fucino basin grasslands (low-rainfall area with both steppic relicts and Mediterranean extrazonal species). Night in Pescara.

June 7: Hotel check-out. Field work in the Marsica range (low to intermediate level of rainfall). Drive to Opi, hotel check-in. Possible meeting with National Park scientific staff and/or local media in Pescasseroli (main town of the Park). In the evening, mid-workshop assessment/calibration of methodological issues. Night in Opi.

June 8: Field work near Pescasseroli (high rainfall area), comparing different types of bedrock (conglomerates vs. limestone s.s.; further possible comparison with clayey substrata); if there is time, field work in ancient wooded pastures (“Difesa”). In the evening, more participants’ presentations. Night in Opi.

June 9: Field work in the Lazio Apennines (high rainfall, oceanic sub-Mediterranean climate). Night in Opi.

June 10: Field work in the Lazio Apennines (high rainfall, oceanic sub-Mediterranean climate). Night in Opi.

June 11: Transfer by minibus to Rome Fiumicino Airport (we should be there by 1 p.m.).

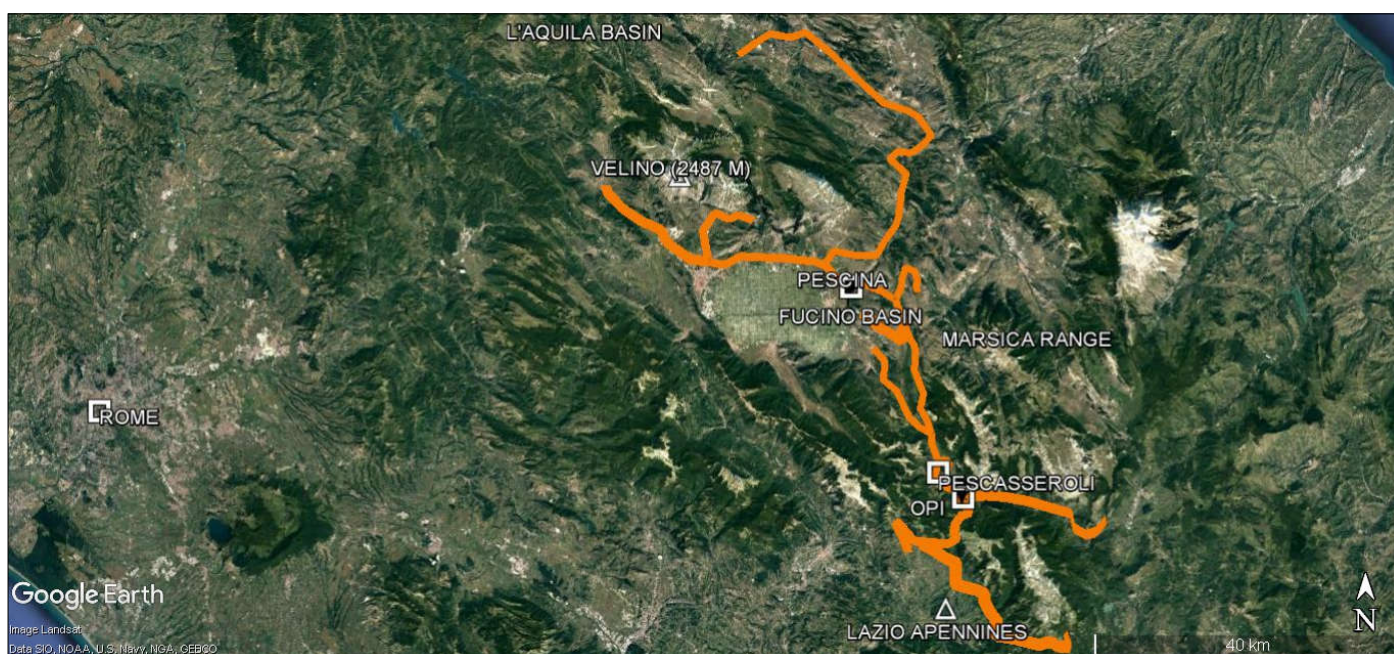


Fig. 2. Study area with position of main places mentioned in the itinerary; orange lines show the itinerary routes.



Photo 3. A grassland dominated by *Stipa dasyvaginata* subsp. *apenninica* (foreground) near Pescina (where we will stay on the first 4 nights), in the low-rainfall section of the study transect. In the background, above the cultivated valley bottom, the mountain slopes are covered with chamaephyte-rich grasslands (the yellow patches are massive carpets of *Helianthemum oleandicum* subsp. *incanum*). Photo: G. Filibeck.

How to register

There are 13 available places (in addition to the organizers) to join this research workshop. Participants from any country and any academic level (BSc student to professor) are welcome. We particularly appreciate the participation of people experienced in any of the following fields: bryophytes or lichens identification; identification of critical vascular plants; experience in high-quality field sampling; advanced statistical methods for biodiversity patterns; zoologists who are willing



Photo 4. A goat-grazed grassland on steep limestones at 1100 m a.s.l. in a high-rainfall sector of the study gradient, near the hilltop village of Opi (where we will stay on the last 4 nights) in Abruzzo. Photo: G. Filibeck.

and able to sample a certain invertebrate taxon during the field workshop on exactly the same plots used for vegetation.

Estimated costs: 660 Euros, including accommodation (sharing twin rooms), full meals (from dinner of the first day to breakfast on the last day), ground transport from arrival at Rome Fiumicino airport until departure from the same place (participants arriving by train to Roma Termini railway station can easily reach the airport by shuttle train “Leonardo Express”). The exact price will be confirmed later to those who will place a pre-registration (we are currently negotiating some financial support, so we might be able to reduce it by c. 100 Euros). *It is also possible to apply for financial support for participation* (travel grants, see below), although this requires membership of the IAVS.



Photo 5. The relatively oceanic, sub-Mediterranean slopes of the submontane belt in the Lazio Apennines: grassland patch with *Bromus erectus*, *Koeleria splendens*, *Phleum hirsutum* subsp. *ambiguum*, *Erysimum pseudorhaeticum*, *Artemisia alba*, *Silene otites*, *Anthyllis vulneraria*, etc. Photo: G. Filibeck.

Very important: EDGG Field Workshops are intensive field sampling events, aimed at collecting data to be analysed and published, not guided botanical excursions! Please be aware that the daily schedule will be very busy, because of the time-consuming sampling methodology in the field, followed by the oral presentations and “laboratory work” when back at the hotel (plant determination, preparation of herbarium specimens, soil sample preparation, etc.).

If you are interested in participating and would like to be kept informed about further details (e.g. the exact cost and the final itinerary) you should pre-register sending an e-mail to both the following persons: Goffredo Filibeck (filibeck@unitus.it) and Jürgen Dengler (juergen.dengler@uni-bayreuth.de).

However, *formal applications to participate must be sent no later than 15 March 2017* to the same two email addresses as

specified above. Please give as subject of your application e-mail "EDGG Field Workshop 2017" and provide the following personal information: full name, gender, age, academic degree/position, affiliation, email and post address, and which previous EDGG expeditions (if any) you have already participated to. Please also indicate in your application if you have any special dietary requirements. Those who are participating for the first time in an EDGG Field Workshop, are kindly required to attach a short motivation letter (approx. 10 lines), stating your interests and competences and explaining why you wish to participate in the Workshop, what you would contribute to its success (including any subsequent publications, e.g. knowledge of critical taxa or of analytical methods or additional ideas for field sampling) and what you would like to gain from your participation. Finally, if you wish to give an oral presentation, please attach, in a separate Word document, a half-page abstract and indicate whether this presentation belongs to category 2 or 3 (see details above). If there are more applications for participation than available places, the organizers will make a selection based on the information provided by you. Notification of acceptance (or otherwise) will be sent to applicants before 31 March 2017.

Application for IAVS travel grants

With your application to participate, you can also apply for IAVS travel grants that can cover part of your workshop fee and/or travel costs. Application for IAVS travel grants is possible until 15 March 2017 and only if you are an IAVS member in 2017 (for many countries, free or reduced membership is available, see <http://www.iavs.org/AwardsFinancial.aspx>) and give a presentation during the Field Workshop.

To apply for travel grants, please send us a Word document labelled „Application for IAVS travel grant“, that in addition to the information required for all participants contains/repeats the following items:

- your name;
- title and type of your presentation;
- specification that you are IAVS member in 2016;
- estimated costs of travel to and from Rome;
- information whether you receive other funding;
- whether your participation is only possible with financial support;
- whether you are also applying for financial support to attend the 2017 EDGG conference in Latvia and Lithuania, the 2017 EVS workshop in Spain or the 2017 IAVS Symposium in Sicily (you can normally receive financial support for only one

of these meetings and therefore have to indicate your preference).

The decision on travel grants and the amount of money awarded to each of the scholars will be made by the EDGG Executive Committee in consultation with the IAVS Global Sponsorship Committee. Applicants will be notified about the decision by approx. 15 April 2017.

The study area

i. General features

Our research expedition will take place within the Central Apennine mountains (Italy), in the administrative regions of Abruzzo and Lazio. Most of the surveyed sites will be inside "Abruzzo Lazio & Molise National Park" or its buffer area. On a couple of days, we shall work in different districts, namely at the foothills of the Monte Velino massif and in the L'Aquila basin, lying at the base of the Gran Sasso chain. The Central Apennines host the highest peaks of Italy south of the Alps (Gran Sasso reaches 2,912 m a.s.l.); however, because of our research aim (and because of the period of the year) we will focus on the submontane belt, i.e. we will work mainly in grasslands placed between 700 and 1200 m a.s.l.

Prevailing bedrock types are Mesozoic limestones and dolomites; conglomerate, calcareous arenite, clay and marl substrata also occur. Geomorphology is characterized by widespread karstic landforms. Climate is sub-Mediterranean in the colline and submontane belts, i.e. showing a marked but short summer drought period. From the montane belt upwards, in the Apennines the reduced summer temperatures and the orographic rain give rise to a climate which is formally classified as Temperate by many Authors (e.g. Rivas-Martinez et al. 2004; Blasi et al. 2014), because of the lack of a drought period if defined according to the threshold $P < 2T$. However, it is to be underlined that even at high elevation the precipitation regime in the Apennines is very different from that of the Alps or Central Europe, as it features a deep minimum in summer and a maximum in autumn (while in the Alps at the same elevation there is a marked precipitation maximum in summer) (Gerdol et al. 2008; Filibeck et al. 2015). Thus, in the Apennines, herbaceous plants in the montane and even the subalpine belt can be under severe drought stress during July and August (Primi et al. 2016). This limiting factor leads to a grassland physiognomy that is often very different to analogous formations in the Alps: Apennines grasslands host – along with hemicryptophytes familiar to C-European botanists such as *Bromus erectus*, *Nardus stricta* or *Dactylis glomerata* – a number of Mediterranean therophytes as well as xeromorph or succulent chamaephytes.

The core section of our study area was designated as a National Park in 1923, for protecting the local endemic subspecies of bear (*Ursus arctos* subsp. *marsicanus*) and chamois (*Rupicapra pyrenaica* subsp. *ornata*). The area also hosts a large population of wolf (*Canis lupus*), while red deer (*Cervus elaphus*) was reintroduced in the 1970's. The Park's flora comprises >2,000 species, including 137 taxa endemic to Italy, 29 of which are endemic to the Central Apennine mountains. A total of c. 65 boreal, central-European or arctic-alpine plant taxa reach here the southernmost point of their Italian range (e.g. *Aster alpinus*, *Cypripedium calceolus*, *Dactylorhiza fuchsii*, *Pinus mugo*, *Trollius europaeus*, *Vaccinium myrtillus*) (Conti & Bartolucci 2015).

Transhumant sheep and goat grazing was the main stocking system in the Central Apennines for millennia (Manzi 2012). Within the study area, it dates back to the 6th century BC or earlier (Brown et al. 2013), and was widely practiced until the 1950's, when ovine grazing started to dramatically decrease for the same socio-economic reasons as in other parts of Europe, such as mountain depopulation, etc. Thus, while in central Europe transhumant shepherding and the associated secondary dry grasslands are relatively recent phenomena (e.g. Poschold & Wallis DeVries 2002), sheep grazing was shaping Apennine landscapes already in Roman times: the floristic composition of present-day secondary grasslands of the Apennine mountains may thus be inherited from local xerothermic enclaves, that survived through the postglacial forest spread as relicts of the previously widely distributed steppe. The abandonment of traditional sheep grazing in the Apennines is now leading to grassland habitat loss because of scrub encroachment and forest expansion (Bracchetti et al. 2012); however, in our study area, secondary dry grasslands still occupy a very large proportion of the landscape.

Most of the husbandry is now sedentary, and present-day stocking rate is drastically lower than in the early twentieth century (Primi et al. 2016). The most common stocking system now involves grazing from mid-June to mid-October in public pasturelands, leased by each municipality to individual farmers. However, also common pastures exist, where all local residents are entitled to introduce their animals upon payment of a fee. The shepherds lead the sheep or goat herd to the assigned pastures and remain with them. In the evening the herd is gathered for milking, and spends the night in a fenced area for protection against wolves. In the last decades the abandonment of sheep husbandry has been followed by a steep increase in bovine and, above all, equine grazing. Since most of the cattle and horses belong to "part-time farmers" (i.e., people who have their main income from other professional activities), they are usually raised for meat production only and are left free-ranging in the wild without checking for many months (Primi et al. 2016).

ii. The climate gradients and the main vegetation patterns

Our study area features a peculiar gradient in total annual rainfall (and, to a lesser extent, in annual temperature excursion). The inner tectonic basins of Abruzzo are under a rain-shadow effect, thus showing mean annual precipitation of c. 600 mm; on the other hand, the W-facing slopes of the ridge between Lazio and Abruzzo can receive more than 1700 mm/yr. The distance between the two extremes can be smaller than 15 km. This specific local gradient interacts with the more general gradients that are characteristic in the Italian Peninsula, i.e. a gradient of decreasing temperature with increasing elevation and a gradient of decreasing Mediterranean influence (decreasing length and strength of the summer drought) moving away from the coast.

In the low-rainfall basins, potential vegetation is thought to be *Quercus pubescens* forest (Pirone et al. 2010): the relatively continental climate allows this species to span over an unusually large elevation range (from 400 to 1400 m a.s.l., while in the rest of central Italy it is usually restricted to the colline belt, i.e. <800 m a.s.l.). In these dry valleys, fragments of extrazonal *Quercus ilex* woods also exist.

Instead, the areas with high annual rainfall show a forest vegetation dominated by *Ostrya carpinifolia* and/or *Quercus cerris* in the colline and submontane belt, i.e. below 1200 m a.s.l. (mean annual temperature >10 °C and only limited frost occurrence). In the montane belt, i.e. above 1200 m a.s.l. (mean annual temperature between 6-9 °C, with significant winter frost), the forest vegetation is made up almost exclusively of *Fagus sylvatica* (Filibeck et al. 2015). The natural timberline is reached at approx. 1900 m, but the actual tree line is often lower because of centuries of sheep grazing. Above the potential timberline lies the subalpine belt, characterized by prolonged snow cover and late-spring frost; this belt is covered mainly with grasslands, fragments of prostrate shrub vegetation (mainly *Juniperus communis* subsp. *nana*, rarely *Pinus mugo*), rocks and screes.

In the study area, grasslands show a huge heterogeneity in both physiognomy and floristic composition, depending on elevation belt, precipitation regime, bedrock, landforms, soil depth, historical land-use, etc. Generally speaking, most frequent species include (Primi et al. 2016; Cancellieri et al. 2017) *Festuca circummediterranea*, *Bromus erectus*, *Brachypodium rupestre*, *Koeleria splendens*, *Avenula praetutiana*, *Phleum hirsutum* subsp. *ambiguum* among grasses, and *Cerastium tomentosum*, *Viola eugeniae*, *Hieracium pilosella*, *Anthyllis vulneraria* among forbs.

In the "dry valleys", grasslands can be dominated by species ecologically bound to a continental climate and interpreted as steppe relicts, such as *Stipa capillata*, *Stipa dasyvaginata*



Photo 6. A stony slope in the dry sector of the Marsica range, with an open formation dominated by chamaephytes such as *Satureja montana*, *Sideritis italica*, *Helianthemum oleandicum* subsp. *incanum*, *Globularia* spp., and with *Polygala major*, *Bromus erectus*, *Koeleria splendens*, etc. Photo: G. Filibeck.

subsp. *apenninica*, *Sideritis italica* (= *S. syriaca* p.p.) (e.g. Tammaro 1984). Here also some very disjunct populations of rare steppic species occur, the most striking being *Goniolimon italicum*, a narrow endemic known solely from the L'Aquila basin and the only W-European species of a typically steppic genus (Morretti et al. 2015); other examples of disjunct populations include (see e.g. Tammaro 1995; Conti & Bartolucci, 2015) *Androsace maxima*, *Crocus reticulatus*, *Alyssum desertorum*, *Salvia aethiopsis* and *Astragalus exscapus*: the latter was until now known in Italy for the Alpine dry valleys only, and has been discovered for the first time in the Apennines in 2016 (Cancellieri et al., in prep.) during a preparatory field trip for this EDGG Workshop! Interestingly, intermixed with these steppic taxa there is often a number of Mediterranean species: e.g. *Helichrysum italicum*, *Salvia argentea*, *Stipa capensis*. The stony slopes are often colonized by grasslands rich in chamaephytes (*Satureja montana*, *Globularia* spp., *Helianthemum* spp., *Thymus longicaulis*, *Chamaecytisus spinescens* etc.) or even pseudo-garrigues (Pirone & Tammaro 1997). Some grasslands are encroached with E-Mediterranean small shrubs such as *Phlomis fruticosa*, *Salvia officinalis*, *Daphne sericea*.

In the high-rainfall area on the Abruzzo side of the watershed, the secondary grasslands of the submontane and montane slopes on limestones are usually dominated by *Festuca circummediterranea*, *Koeleria splendens*, *Bromus erectus*, *Poa bulbosa* and *Avenula praetutiana*, and very frequent species include *Phleum hirsutum* subsp. *ambiguum*, *Hieracium pilosella*, *Helianthemum* spp., *Minuartia verna*, *Anthyllis vulneraria*, *Arenaria serpyllifolia*, *Cerastium tomentosum*, *Sedum*

rupestre, *Thymus longicaulis*, *Euphorbia myrsinites*, *E. cyprissias*, *Achillea millefolium* agg., *Viola eugeniae* subsp. *eugeniae*. The bottom of karst depressions feature a more acidophilic and mesophytic vegetation, with *Nardus stricta*, *Festuca* sect. *Aulaxyper*, *Agrostis capillaris*, *Plantago atrata*, *Trifolium repens*, *Potentilla rigoana*. Conglomerates feature an interesting xerophilous flora with *Sedum* spp., *Alyssum alyssoides*, *Saxifraga tridactylites*, *Erophila verna*, *Hornungia petraea*, *Paronychia kapela*. Clayey substrata are dominated by *Brachypodium rupestre*, with *Dorycnium pentaphyllum*, *Polygala nicaeensis*, *Trifolium ochroleucon* (Primi et al. 2016; Cancellieri et al. 2017). An interesting feature of the lower montane belt in the surroundings of Pescasseroli and Opi are the wooded pastures, locally called "Difese" (similar to the "Dehesas" in Spain) (Manzi 1990). The slopes of the Lazio side of the National Park (i.e. the SW aspect of the Apennine chain) can feature even higher values of total annual rainfall than the Abruzzo side, but at the same time have lower summer precipitation, i.e. a more Mediterranean climatic character. Thus, the floristic composition of the submontane belt shows an interesting mixture between *Festuco-Brometea* (or its Apennine vicariant) taxa, shared with the Abruzzo sector of the Park (mostly hemicryptophytes: e.g. *Festuca circummediterranea*, *Bromus erectus*, *Phleum hirsutum* subsp. *ambiguum*, *Hieracium pilosella*, *Anthoxanthum odoratum*, *Vincetoxicum hirundinaria*), and Mediterranean species (mostly therophytes, belonging to *Helianthemetea guttati*; but also chamaephytes from *Ononido-Rosmarinetea* and geophytes) such as *Trachynia dystachia*, *Dasypyrum villosum*, *Trifolium stellatum*, *Euphorbia spinosa*, *Helichrysum italicum*, *Ruta graveolens*, *Asphodeline lutea*, etc.

In the subalpine belt (that will not be reached by our expedition) most slopes are covered with communities dominated by *Festuca circummediterranea*, *F. laevigata* subsp. *laevigata*, *F.* sect. *Aulaxyper*, *Avenula praetutiana*, *Koeleria lobata* and *Poa alpina*. On shallower soils, the subalpine grasslands are dominated by *Sesleria juncifolia* subsp. *juncifolia* (Primi et al. 2016).



Photo 7. *Asphodeline lutea* flowering in the sub-Mediterranean grasslands in the "oceanic" part of our study gradient (submontane belt, Lazio sector). Photo: M.G. Sperandii.



Photo 8. *Crepis lacera* (endemic to Italy and typically found in montane and submontane grasslands). Photo: G. Filibeck.

Especially at lower elevation, secondary grasslands are rich in orchids: many of them are of conservation interest, such as *Himantoglossum adriaticum*, *Epipactis atrorubens*, *Ophrys apifera*, *Orchis pauciflora*, *O. provincialis*, *O. tridentata*, *O. ustulata*. Endemic species include e.g. *Crepis lacera* (very common), *Iris marsica*, *Paeonia officinalis* subsp. *italica*, *Viola eugeniae* (Conti & Bartolucci 2015).

iii. Previous studies

The grassland vegetation of the C-Apennines dry valleys (Fucino basin, L'Aquila basin, Capecstrano valley, Giovenco valley, etc.) still needs to be thoroughly explored, however a few descriptive studies have underlined some of the characters of their peculiar grasslands: for instance, Avena & Blasi (1979) described the most common associations in the Fucino basin, Pirone & Tammaro (1997) provided a phytosociological description of the chamaephytic communities of the various dry valleys, Tammaro (1984) described the *Stipa capillata*-dominated vegetation, Tammaro (1995) provided a phytosociological description of the southern slopes of Gran Sasso, Pirone et al. (2001) described some grassland communities in

the Capecstrano valley. Preliminary results from a detailed study on the altitudinal biodiversity patterns of the Monte Velino grasslands are presented by Theurillat et al. (2007).

The grasslands of the submontane and montane belt of Abruzzo National Park are not very well known (this is even more so for the Lazio sector of the Park). A preliminary phytosociological study on the submontane grasslands of a very small area of the Park was published by Biondi et al. (1992). Other relevés from the montane belt of the Park are published and discussed in a general study on the *Festuco-Brometea* in the C-Apennines by Lucchese et al. (1995). For the meso- and hygrophytic grasslands on the alluvial soils of the Pescasseroli valley see Pedrotti et al. (1992). The acidophilous grasslands (although mostly in the upper-montane and subalpine belt) of the NE-buffer area of the Park were studied in detail by Di Pietro et al. (2005). The grasslands of the Park's subalpine belt (not involved in this Field Workshop) were described in the very detailed study by Bazzichelli & Furnari (1979). Primi et al. (2016) recently published a general description of the physiognomic features of all the Park's grasslands, as well as an analysis of their phenological and productivity patterns through remote-sensing and a preliminary analysis of the relationship between species richness and grazing pressure (and between species richness and altitude). A biodiversity study in the montane belt of the Park's core area, based on randomized nested plots similar to those used in the EDGG approach (but only the 0.01, 0.1 and 1 m² spatial scales were surveyed), will be published in the near future (Filibeck et al. in prep.); some preliminary results can be found in Cancellieri et al. (2017).

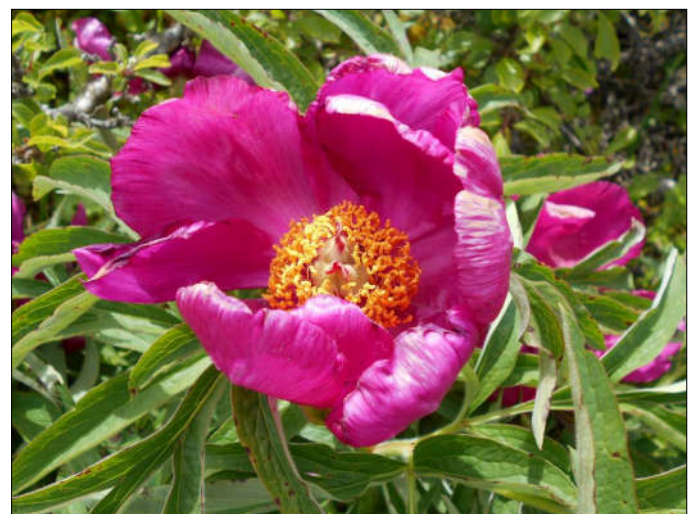


Photo 9. *Paeonia officinalis* subsp. *italica* is found in some dry pastures of the Marsica range. Photo: L. Cancellieri.

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Photo 10. Old almond grove in a dry valley (Fucino basin) now used as extensive pasture and encroached with *Helichrysum italicum*. Photo: G. Filibeck.

Minutes of the General Assembly 2016

The General Assembly of the EDGG was held at Sighișoara, Romania on 23rd September 2016. After briefly introducing all of the members of the Executive Committee, a report on the development of the membership, prepared by Membership-Secretary Idoia Biurrun, was given. The number of members continues to steadily increase and at the time of the GA it stood at 1120 members from 63 countries. Next the activities of the regional sub-groups: Arbeitsgruppe Trockenrasen, Working Group on Dry Grasslands in the Nordic and Baltic Region, South East European Dry Grasslands Group (SEEDGG) and Mediterranean Dry Grasslands (Med-DG), as well as the topical sub-group on Grassland Conservation and Restoration, were presented. Most of these are not highly active, though members of the Nordic and Baltic Region group are currently collaborating on the preparations for next year's EGC14. The purpose of these groups is to facilitate activity at a regional level, and anyone who would like to be involved in regional activities is very welcome to contact them. Contact details can be easily found from the EDGG web-site.

Next Secretary-General Stephen Venn presented some recent

changes to the bylaws, including the change of the conference name from Eurasian Dry Grassland Conference to Eurasian Grassland Conference. In the descriptions of our activities, conferences is now included, in addition to scientific meetings, and instead of technical workshops, we now organize workshops. Article 8 has been considerably simplified, so that now the Executive Committee is authorized to make the final decision regarding the location and timing of the conference. The previous moments 1 and 2 of article 8 describing the procedure for determining these have been deleted from the bylaws.

Financial officer Péter Török gave a report of the organization's finances. We receive €500 annual baseline support from the IAVS. The IAVS also provide us with €3 000 p.a. for project funding, of which we used €750 for a joint EDGG-EVS project and the remaining €2250 was used to cover travel expenses for EC members. Additionally the IAVS provided us with €5 000 for travel grants for participants in the Field Workshop (€1 700) and Conference (€3 300). We also still have a grant of €1 500, received from the IAVS in 2013, for



Preparation for the General Assembly. Photos: J. Dengler.



We express our thanks to our hosts. Photos: J. Dengler.



the purpose of up-dating our web-site. Finally the University of Hildesheim provided us with €2 200 for the linguistic editing of papers published in our Hacquetia Special Feature. We used an additional €1 148 of funding for linguistic editing of papers for our publications in Tuexenia, Hacquetia and Biodiversity and Conservation in 2015-2016. We paid €400 of the project funding from the IAVS in 2015 to Falko Glöckler for setting up the conference web-site. Also from this money we pay €35.40 for the server space for the EDGG web-pages. The current balance in our virtual account is €2 372.

Mike Vrahnakis presented a report on the conferences and Jürgen Dengler on the field workshops. Next year the conference will be held in Latvia (Riga)/Lithuania (Klaipeda). Nominations for the following years are: Rome (Italy) in 2018 and Graz (Austria) in 2019. Jürgen also reported on the Field Workshops. The 8th Field Workshop was organized by Dr. Zygmunt Kacki & Iwona Dembicz and held in Poland in June 2015. There were 16 participants from six countries. The ninth Field Workshop was organized by Prof. Zora Dajić Stevanović & Dr. Svetlana Ačić and held in Serbia during July 2016. It was attended by 22 participants from 11 countries. The 10th Field Workshop is scheduled to be held in the Central Apennines, Italy, during 3rd-11th June 2017.

Didem Ambarli presented information on the EDGG home-page <http://www.edgg.org/>. During January, for instance, the home-page had 6 000 – 10 000 hits per week. The EC is currently considering making changes to the home-page, and one possibility is to use the IAVS server and format <http://www.iavs.org/>. One problem with this option is that only the central field would contain scrollable information on the EDGG, whereas a considerable amount on both sides and above this would contain IAVS feeds and links. This would somewhat restrict the amount of information we could provide and also offers numerous links that distract visitors away from our material. We would like to make some improvements to the current design, such as a scrollable field, new pages for the Field Workshops and policy issues, and possibly a photo-gallery. The format used for the web-site of this EGC <https://egc2016.namupro.de/> also is attractive and has good potential.

The current status of the Bulletin was presented by Anna Kuzemko. She has initiated some changes in the format and the Bulletin also now accepts scientific papers relevant to the topics of the EDGG, for publication. The Bulletin is also now listed in ResearchGate.

Other current and recent EDGG publications were described by Jürgen Dengler. These include a number of Special Features and Special Issues, including Tuexenia 36 (2016), Hacquetia 15:2 (2016), Biodiversity & Conservation 16 and an ongoing Virtual Special Feature in Applied Vegetation Science on *Classification of European Grasslands*. Planned SFs for 2017 include one in Tuexenia on *Maintenance of grassland diversity – Conservation, management and restoration* (Abstract submission deadline 30.10.2016), and one in Hacquetia on *Fauna, flora, vegetation and conservation of Palaearctic natural and semi-natural grasslands* (Manuscript submission deadline 28.2.2017).

Finally Anna Kuzemko advertised the EDGGs Facebook group EDGG - Eurasian Dry Grassland Group. This forum is good for disseminating information quickly, contacting other members and presenting photographs, videos and links to other resources of interest to members. Currently the FB group has 120 members. That brought us to the end of the business for the General Assembly, after which the prizes were presented for the best student poster and oral presentations. The winners were Szilvia Raócz for the best poster, with Agnes Balazsi in second place and Eugen Görzen in third place. The winner of the best oral presentation was Csaba Tölgyesi, with Orsolya Valkó in second place and Tsvetelina Terziyska in third place. After this it just remained for Didem and Mike to express our thanks to our hosts: Nat, Liliana, Christi, Laura and all those who contributed to the organization of this memorable Eurasian Grassland Conference in Sighisoara.

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Steppe protected areas on the territory of Ukraine in the context of the armed conflict in the Donbas region and Russian annexation of the Crimean Peninsula

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Abstract: This article analyses the factors influencing the conservation status of protected areas in Ukraine caused by the unstable political situation in the country in the years 2014-2016, including military action and occupation of the eastern part of Ukraine by Russian troops, and annexation of the Crimean Peninsula and increasing military activity of the Armed Forces of Ukraine. We show that these factors have caused acute adverse effects on protected areas. The eastern region of Ukraine, which contains the oldest protected areas in the country, and the Crimean Peninsula contain the most valuable and ancient nature reserves and national parks, interesting as reserves of rare species of flora and fauna, as well as objects of long-term monitoring of changes in nature. This is where much of the protected area supports steppe ecosystems. We examine the negative impacts on all steppe protected areas in Ukraine caused by the physical impact of military operations or exercises, increasing intensity of spontaneous fires, pollution and other factors stemming from the unstable political situation in the country.

Keywords: ATO zone, biodiversity, conservation, Donetsk region, environmental impact, fires, Luhansk region, protected areas.

Abbreviations: ATO = Anti-Terroristic Operation, PA = protected areas, NNP = National Nature Park, RLP = Regional Landscape Park., SPNA= Specially Protected Natural Area.

Introduction

Since 1919, about 8,200 protected areas (PA) have been established in Ukraine with a total area of 4,071,362 hectares or 6.7% of the country's surface. The PAs were created at irregular intervals during this period, under different legislative frameworks and pursuing different objectives. In 1951 and 1961, many PAs were abolished as being discordant with the USSR's policies for resource exploitation. The same happened in the 1970-80s, when amendments to legislation three times triggered the abolishment of some of the PAs in connection with some alleged discordance with contemporary legislation and, in most cases, the liquidation was carried out to the benefit of exploitation of new timber resources or mineral deposits. In total, about 3,000 PAs lost their protected status, constituting about 15% of the total area of all PAs established in Ukraine. These losses led to an eclectic, unevenly distributed network of protected areas. There are still ideas to improve of PA network representativity (Lavrenko 1927) that were contemplated in 1927 but have not been implemented yet.

A distinctive feature of the Ukrainian PA network is the protection of steppe landscapes, as being traditional for the country. The very recognition by scientists of the degree of loss due to massive agricultural clearing of steppes in 1917-1918 gave momentum to environmental conservation. A significant proportion of the first protected areas and national parks created within the current borders of Ukraine (starting with Askania-Nova in 1919) were located in the steppe zone. The peak of establishing steppe conservation areas occurred in the second half of 1920s. Almost all of them have preserved their conservation status until now, remaining under continuous protection for the last 90 years.

Since 2010, Ukraine has been going through complex social and political perturbations that make the involvement of government authorities, scientific institutions and public engagement in environmental protection significantly more complicated. In particular, during the public administration reform conducted in Ukraine in 2010-2011, the role of the State Conservation Service as an independent executive authority coor-

dinating conservation activities was abolished. Also the regional bodies of the Ministry of Ecology and Environmental Protection that operated PAs in provinces were dissolved. Within regional administrations there were various “ecology departments” bearing various names and functions. PA establishment and administration function became the task of newly created agencies. However, these did not fully replace the former agencies and in most cases conservation practice has almost stopped. The systematic implementation of national conservation policy has thus been effectively terminated. This affects the protection of existing PAs, the establishment of new ones, as well as the continuing development of conservation institutions. Furthermore, attempts to create a new government authority that would have replaced the liquidated body have been unsuccessful.

Since 2013, conservation practice has been deeply affected by new, previously unknown, issues related to social and political changes, such as: a) Crimean peninsula annexation; b) military intervention of Russian military forces into Eastern regions of Ukraine and c) illegal activities of the Armed Forces of Ukraine in the nature conservation areas. Unfortunately, those were Eastern provinces that traditionally were the birthplace and development ground for national conservation practice, and Crimea is the area with the highest density of highly protected PAs.

Crimea

The total area of the 183 Crimean PAs is 216,000 hectares (6% of the total PA surface of Ukraine). In Crimea, this includes 6 out of a total of 19 Ukrainian nature conservation areas of the highest level category of protected areas. Four conservation areas, the only national park as well as numerous small PAs essentially represent regional steppe ecosystems. All the conservation areas administrations are subordinated to Ukrainian government authorities, instead of local governments. There is no proprietary authority in Crimea to take care of its own conservation areas (Shyriaieva & Vasyliuk 2014; Vasyliuk & Shyriaieva 2014a). In 2014, public and political events entailed the illegal separation of Crimea from the territory of Ukraine and annexation of the Crimean Autonomous Republic to the Russian Federation. Despite the fact that world community and Ukrainian government did not recognize the peninsula’s annexation, for the time being Ukraine has lost control over Crimean territory. Change of administrative subordination of Crimea, as well as loss of control over its territory from Ukraine led to a number of negative consequences for its conservation areas:

- certain PAs have been liquidated in order to solve problems that could not be addressed while they existed, and others have undergo construction or logging on their territory;
- nature conservation areas have been subordinated to the Republic Forestry Committee of the Russian Federation, while, at the same time, scientific priorities were essentially disregarded as their primary function;

- planned conservation activities implemented by governmental bodies were stopped and constant operation of protected areas, which was maintained in previous decades, was terminated (Vasyliuk et al. 2015a; Vasyliuk & Shyriaieva 2014a).

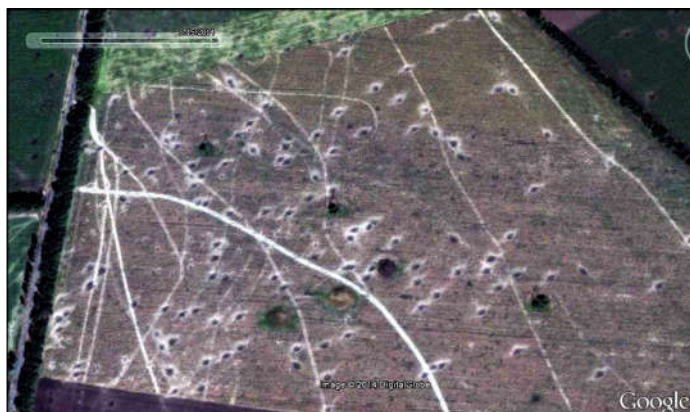
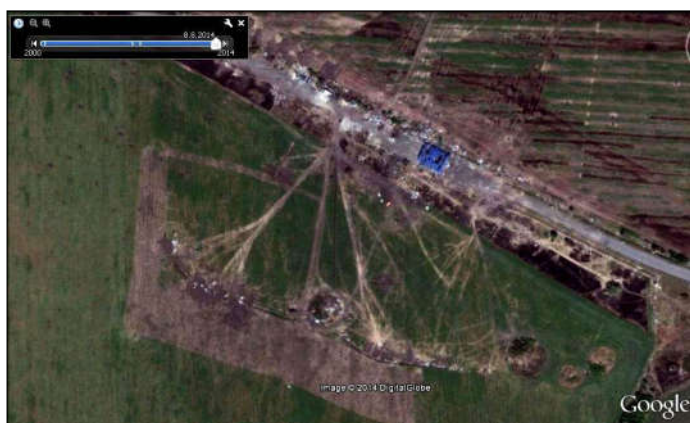
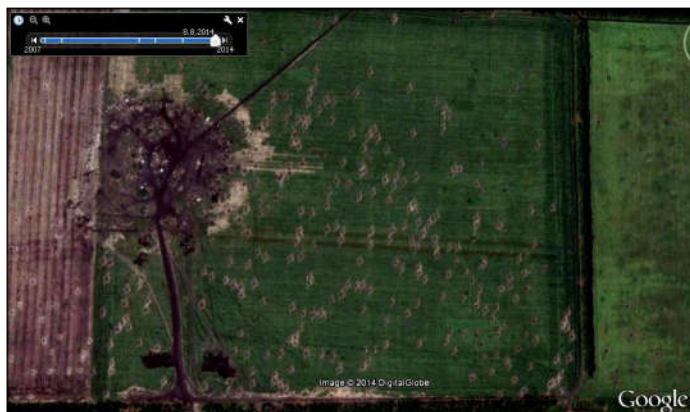
State of Crimean PAs after the Russian annexation is unknown. Establishing details about the current situation is quite difficult due to the low possibility of obtaining current operational information from the territory that is no longer controlled by Ukraine. With the annexation, the Federal Law on “Specially Protected Natural Areas” (SPNA) extended its effect on the peninsula’s territory. According to this Law, there are SPNAs of federal, regional and local level. Therefore, conservation areas and national nature parks (NNP) are controlled at the federal level, while the rest are mostly of the regional. Thus, conservation areas and national parks shall be subordinated directly to the Ministry of Nature Reserves of Russia, while the others shall be subordinated to the sub-sovereign entity, i.e. Crimea.

The policy of the self-proclaimed republic aims to preserve the PA territories under its local authority (Kryminform 2014). At the same time, there is no unified vision of implementing such intent. An option of creating a new institution that would administer conservation areas (Kianews 2014), or uniting all the conservation areas into a single conservation area (Vasyliuk 2016) was considered. In fact, in the same fashion as the forestry enterprises, the conservation areas were subordinated to the Crimea Republic Forestry Committee (Izvestiya 2014).

Another negative aspect of Crimean government policy is the commercial approach to the exploitation of natural and recreation resources of Crimean PAs. On 02 April 2014, the government issued a decree establishing that visits to conservation areas and national parks and use of touristic paths of Crimea should be free of charge until the infrastructure could be established to administer the revenue. At the same time, the Russian Forestry Committee has declared the majority of all conservation areas as “recreation objects” and established scaled entry payment (Russian Forestry Committee 2014). Crimean media actively advertise commercial tourism in Crimean conservation areas and nature reserves (Krymedia 2015). Such initiatives are caused by the shortage of PA financing available from the self-proclaimed Crimean authorities.

Obvious negative consequences of Crimean annexation were perceived in just 4 months after the annexation. As nature conservation areas lost institutional connection to the Ministry of Ecology and Environmental Protection and National Academy of Sciences of Ukraine, the majority of the conservation areas employees were dismissed, subsequently terminating long-term monitoring research at the conservation areas, and partially losing academic legacy.

In October 2014, the Crimean Nature Conservation Area was transferred to the Federal State-Funded Institution “Complex Crimea”, under jurisdiction of the Administration of the President of the Russian Federation V. Putin (Kryminform 2015).



Figs. 1-3. Traces of large-scale fighting on satellite images, Luhansk region (1-2), Donetsk Kriazh RLP, Donetsk region (3), 2014.

Transformation of the conservation area into a government-owned enterprise for elite hunting is a restoration of Soviet traditions, restoration of safari practice, for the purpose of which the conservation area was liquidated 57 years ago (Kryminform 2015).

There are other negative aspects. Russian troops are deployed at the territory of Karalarskyi RLP, Charivna Havan NNP, Opuk and Kazantip Nature Reserves. At the same time, the Ministry of Defence of the Russian Federation broadcasts information about mass-scale military training at Opuk Conservation Area (Environment-People-Law 2016) and Karalarskyi Park (here Russian occupants have reconstructed an airfield), including air missiles, air defence systems and high-calibre arms, that cause substantial damage to the conservation areas (Reporter 2016).

East Ukrainian Combat Area (Anti-Terrorist Operation Zone)

The military and political conflict in the Eastern Ukraine (Donetsk and Luhansk regions) that, in 2014, led to using heavy weaponry, large-scale casualties and infrastructure devastation, is still going on. Moreover, substantial damage was incurred to surrounding landscapes including PAs. Before the occupied territories contemporary frontier was marked, battles were fought largely on the territory controlled by so called “self-proclaimed Donetsk and Luhansk People’s Republics” (Vasyliuk et al. 2015b; Vasyliuk & Shyriaieva 2014b).

The main negative factors causing damages to PAs are:

1. Passage of heavy vehicles (mainly tanks and other types of crawler machines).
2. Craters created by explosions, each of which causes mechanical damage to landscape and destruction of vegetation, as well as leaving concentrated traces of sulphur and heavy metals in the soil. Thus, around Donetsk Kriazh RLP, experts of the International Charity Organization “Ecology-Law-Human” (ELH) have counted 15,505 craters of high-calibre rounds. Each of these has caused the contamination and loss of use of 225 km² of surrounding soil surface (Melen'-Zabramna et al. 2015).

Some of the PAs that were essentially damaged by shelling: NNP Sviati Hory, NNP Meotyda, Kalmiusske and Kreidova Flora Sections of Ukrainian Natural Steppe Conservation Area, RLPs Donetsk Kriazh, Kramatorskyi, Kleban-Byk and Slovianskyi Kurort (Donetsk region), Luhanskyi, Prystenske, Kreidiane, Bilohorivskyi, Perevalskyi, Naholchanskyi wildlife reserves, Novokaterynivske Vidslonennia and Vidslonennia Nyzhnioho Karbonu natural landmarks (Luhansk region).

3. Construction of trenches and other bunkers of all sorts for personnel and machines. Trenches and other fortifications were built on the territory of some of the conservation areas (including Kreidova Flora conservation area that is located on the liberated territories now). The fortifications have been erected also in the offices of Kalmiusske USNR, Novokaterynivske Vidslonennia Nature Landmark, at Donetsk Botanical Garden, Balka Vodiana Wildlife Reserve, as well as Kramatorskyi RLP (all the PAs in Donetsk region).

4. Fires at nature reserves territories. Assessment conducted by ELH shows that about 3000 fires took place in the ATO zone (Kolomytsev et al. 2014, Vasyliuk et al. 2014). The research was conducted using the data obtained through remote Earth surface probing MODIS (NASA). It encompassed all events of fire outbreaks at the natural vegetation and rural communities' areas between June and September 2014. The reason for such increased number of fires in the ATO zone was the combination of a number of factors: a drought season that is traditionally accompanied by local increase of dry foliage fire outbreaks; unavailability of fire extinguishing infrastructure (plundered fire-fighting machinery, land mines in woods and steppes, continuous firefights); significant amount of fire outbreaks caused by explosions, as well as intentional arsons for tactical purposes.

Only for the Donetsk Kriazh RLP, the area damaged by fire is 3,952 hectares. At the same time, it is not possible to evaluate the loss incurred to the biodiversity and the damage caused to the soil by explosions and other consequences of large-scale fires at the protected territories (Kolomytsev et al. 2014).

5. Unauthorized cutting of wood by locals for domestic needs, caused by the destruction of the heating network and natural gas supply; logging for construction of defensive installations. Where shelter wood belts were cut, additionally, this might increase danger of wind erosion and dust storms.

6. Lack of governmental control gave a push to unauthorized open-pit mining of coal. Specialists of I.I. Schmalhausen Institute of Zoology of National Academy of Sciences of Ukraine together with the National Ecological Centre of Ukraine assessed loss of steppe landscapes due to such type of subsurface commissioning in Luhansk and Donetsk regions. Since early 2010, a total of 634 quarries with a total area of 5,880 hectares were created at the territory of Luhansk region; and 105 quarry complexes of 1,274 hectares were created in Donetsk region. The biggest area of illegal coal quarries is located in Anratsyt (1,416.95 hectares) and Perevalskiy (2,555 hectares) districts. About 3,826 hectares or 53.5% of the total area of quarries was created in steppe territories. The rest was created on industrial lands, fields, woods and even within transport infrastructure areas. The area of quarries within Luhansk region is equal to 2/3 of the total area of regional nature conservation territories and it's constantly growing. Such illegal coal mining damaged some of the nature conservation territories (Vasyliuk & Kolomytsev 2014): open-cast mines were spotted in wildlife reserves Miusynske Uzhiria, Pershozvanivskiy, Illiriytskyi, Bilorichenskyi, Perevalskiy (Luhansk region; Vasyliuk 2015), Larynskyi, Zorienskyi step (Donetsk region).

7. Among other negative consequences, the glasshouse botanical collection in the Donetsk Botanical Garden was damaged by inappropriate heating during the winter season.



Fig. 5. In the vicinity of Kreidova Flora Nature Reserve, Donetsk region, 2014. Photo: D. Shyriaieva.

8. The war caused gross damage to the offices of nature conservation territories: the central office of the Luhansk Nature Conservation Area (Luhansk region) was plundered (Borovyk 2015), in NNP Meotyda (UNIAN 2015), Provalskiy Steppe (Luhansk region) and Khomutivskiy Steppe Nature Reserves (Donetsk region; UNIAN 2014) the offices were seized by terrorists, while in Donetsk Kriazh, Zuivskiy and Kleban Byk RLPs (Donetsk region) they simply stopped their work. The personnel, results, documents and nature reserve institutions archives all were lost (Environment-People-Law 2014).

In 2015, the filming of the "Novorussia Army" promotional video caused the extermination of a colony of 50,000 Sandwich terns in Meotyda National Park (Kryva Kosa area). Overall, the absence of the national park's security led to increasing poaching by fishermen in the protected area. After the filming was over, the crippled and non-secured territory has become a place for storing poaching nets (https://youtu.be/snlwOggo_o; accessed 10 November 2016).

So called "Donetsk People's Republic" declared occupied Meotyda territories, as well as Khomutovskiy Steppe Nature Reserve, as "specially protected republican territory named Khomutovskiy-Meotyda" The new quasi-institution is subordinated to the "Main Administration of Ecology and natural Resources of Donetsk People's Republic", being a subdivision of the "Ministry of Agricultural Policy and Products of Donetsk People's Republic" (https://vk.com/khomutovskayastep_meotida; accessed 10 November 2016).

In addition, available within area under control of "self-proclaimed Donetsk People's Republic", PAs with RLP status were reclassified into the "republican national park" (https://vk.com/rlp_donetckiy_kryazh; accessed 10 November 2016).

In June 2016, Ukraine's Donetsk Regional Military and Civil Administration ordered the subordinated local occupied administrations at these PAs in a completely different way. They issued the Orders of Donetsk Regional Military and Civil Administration "On the Liquidation of Donetsk Kriazh Regional Landscape Park" (Donetsk state administration 2016a), "On the Liquidation of Meotyda Regional Landscape Park" (Donetsk state administration 2016b) and "On the Liq-



Fig. 4. Kreidova Flora Nature Reserve, Donetsk region, 2014. Photo: S. Lymanskyi.



Fig. 6. Consequences of fire at "Obushok" PA (Donetsk region) on satellite image, 2014.

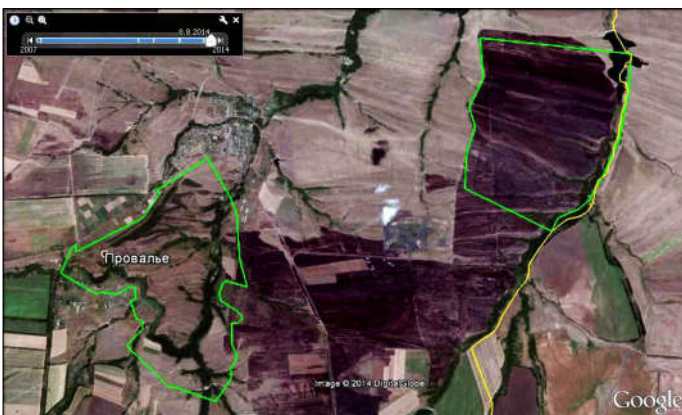


Fig. 7. Consequences of fire at the Department of the Luhans Nature Reserve "Provalskyy Step" on satellite image, 2014.

liquidation of Zuivskiy Regional Landscape Park" (Donetsk state administration 2016c), which liquidated the offices of these landscape parks. The complete liquidation of legal entities of these landscape parks offices, instead of possible cutting of their financing, turned out too cruel step.

Activity of the Armed Forces of Ukraine vs nature protection

The location of several unsanctioned testing grounds of the Armed Forces of Ukraine in national parks within the territory controlled by Ukraine constitutes unexpected negative impacts on protected areas. Some of such territories were related to former military activities in the Soviet times. However, now military people are interfering in natural reserves, causing substantial destruction.

In October 2015, regiments of the Armed Forces of Ukraine entered the Kozachelagerska Arena of the *Oleshkivski Pisky National Park* (Kherson Region) without approval of the park management (Letter of the Oleshkivski Pisky National Park dated 14.01.2016 No 01-18/07 to Chairman of Radensk Village Council O.V. Kravchenko). No reply was given to the enquiry of the national park management to the Ministry of Ecology and Natural Resources, Ministry of Defence, National Security and Defence Council of Ukraine (Letter of the Oleshkivski Pisky National Park dated 15.12.2015 No. 01-8/171

Chairman of the National Security and Defense Council O.V. Turchynov) and to the specialized committee of the Verkhovna Rada of Ukraine (Letter of the Oleshkivski Pisky National Park dated 17.12.2015 № 01-21/112 to the Chairman of the Committee of the Verkhovna Rada of Ukraine for Ecological Policy, Nature Use, and Chernobyl Disaster Consequences Liquidation M.V. Tomenko). Military servicemen of the Armed Forces of Ukraine in fact forbade the national park inspectors and specialists to stay on its territory, thus their work and the development of the national park was stopped. The PA state security service was unable to perform its functions and research activity was virtually stopped. The 1,391 hectare reserve area requiring special protection regime is located here. The Oleshkivska Desert ecological path is also located here and has been visited by a number of tourists, to which the national park provided paid services. Students of Kherson State University and schoolchildren also failed to do their research field practice within the territory of the national park (Enquiry of Oleshkivski Pisky Scientific and Technical Council members dated 10.12.2015 No 01-18/165 to Chairman of Kherson Region State Administration A.S. Putilov).

Having no relevant decisions of governmental bodies, the Military Commissariat ordered the village councils to warn people on commencement of military exercise and on not letting visitors to the Oleshkivski Pisky reserve (Letter of the



Fig. 8. Fortifications in the "Kalmiuske" Department of the Ukrainian Steppe Nature Reserve (Donetsk region) on satellite image, 2015.



Fig. 9. Fortifications in the Balka Vodiana PA (Donetsk region) on satellite image, 2015.

Chairman of Tsiurupynsk District Military Commissariat dated 18.12.2015 No 1373 to Chairman of Radensk Village Council). The national park management was not informed of that.

Later, a series of circumstances were revealed, which led to military people capturing the Oleshkivski Pisky National Park. For the first time, it was declared a national park in 1928; however, it existed in this status for only 2 years, till 1930. After World War II, this territory was given to the state forest stock land of Tsiurupynsk State Forestry. This land was leased as bombing testing ground – the so-called former 48th Kherson Aviation Testing Ground. However, the permit resolutions for the testing ground expired. As of today, there are no documents confirming the use of this land by the Ministry of Defence of Ukraine. In 2010, the national park was created by the Decree of the President of Ukraine (Supreme Council of Ukraine 2010), and its text says clearly that the military testing ground existed there no longer.

Initially, it was offered to declare the whole territory of the former testing ground as the national park – 19,000 hectares in total. Its most valuable central part of c. 5,000 hectares was to become the park reserve area and be used for research and the territory around it was allocated as recreational zone to be visited by tourists. However, when the park was created, the Tsiurupynsk State Forestry State Enterprise refused to make a full-scale national park and agreed to allocate only the central part of the sands zone for protection, which was originally planned as natural reserve area.

Oleshkivski Pisky is a very favourable location for a national park, because in the past the testing ground was seldom used, only for bombing, which did not cause large-scale transformation of the landscape. A small number of bomb craters has an insignificant impact on the preservation of the sand steppe landscape.

After the war in Eastern Ukraine began, the Armed Forces returned to Oleshkivski Pisky, forgetting that the land lease period expired 15 years before, and without execution of any land use documents. Exercise with various weapons was carried out here. Thus, neither visitors, nor park staff could access this area.

In early February 2016, after several month of illegal military exercise, a working group was created in Kherson Region State Administration (2016) to determine the lawfulness of national park land use for military purposes. At sessions, the participants of this group did not manage to reach agreement with representatives of the Ministry of Defence, thus it was decided to ask the national park to go to court with a demand to force the troops to free the illegally occupied former testing ground.

It appeared that within the Ministry of Defence system, liquidation of the testing ground and absence of land lease rights are not considered to be a serious problem. On the contrary, existence of the national park was called a “problem issue”, which could be resolved through execution of documentation allowing the Ministry of Defence to use the whole territory of Oleshkivski Pisky, including the national park.



Figs. 10 and 11. Consequences of illegal military exercise at “Oleshkivski Pisky” NNP, 2016. Photos: O. Vasyliuk.

Later, ecologists detected the following violations of nature protection regime on the territory of Oleshkivski Pisky National Park: extensive illegal forest cutting (the largest separately standing trees were chosen, which could be quickly removed; <https://youtu.be/e8JncW9K8q8>); throughout numerous hectares, the earth was fully ruptured with crawler threads in tank manoeuvres locations (<https://youtu.be/N1sFQY4RKQY>); the sightseeing platform and national park protection signs were destroyed by using it as targets; targets were placed around the national park located in the centre of the sand arena, to avoid shells leaving the testing ground area, targets were installed, with troops firing from non-reserve part of the sand zone (<https://youtu.be/blats7vxzQ>) into the middle of the national park.

At the same time, a press conference took place in Kherson, attended by representatives of Oleshkivski Pisky National Park, Black Sea Biosphere Reserve, and Askaniya-Nova Biosphere Reserve (Kherson Region), the public, and scientists. The press conference participants concluded that, in their opinion, it is unacceptable that regiments of the Armed Forces of Ukraine continue to stay within natural reserves located on the territory controlled by Ukraine. Considering the absence of any approvals, as well as considerable damage to natural reserve territories, there is a need for the Military Prosecutor’s Office to file the relevant claims for damages incurred by the state as the result of deliberate damage to the natural reserve fund. Apart from rehabilitation of the damaged territories, in the opinion of the press conference

participants, it would be a valid act from the side of the Ministry of Defence of Ukraine to approve creation of national parks on lands belonging to it: Samarskyi Bir National Park (Dnipropetrovsk Region), Divychky (Kyiv Region), Shyrokyi Lan (Mykolayiv Region) etc. (<http://bit.ly/occupiedreserves>).

Later the Ministry of Defence of Ukraine addressed President Petro Poroshenko with a request to facilitate allocation of the land plot of the so-called Kherson Military Testing Ground by cancelling the largest and most important part of the Oleshkivski Pisky National Park.

After an active public campaign, an inter-departmental meeting was held in the Ministry of Ecology and Natural Resources of Ukraine, dedicated to the illegal presence of the Armed Forces contingent (The Ministry of Ecology and Natural Resources of Ukraine 2016). This meeting was initiated by the Minister of Defence of Ukraine addressing to the Minister of Ecology and Natural Resources Ostap Semerak with a request to approve the cancellation of the Oleshkivski Pisky National Park. The meeting was attended by representatives of the Ministry of Ecology and Natural Resources, by the State Forest Agency of Ukraine, Kherson Region State Administration, and the Environment-People-Law International Charity Organization. In the opinion of the Ministry of Defence, the whole territory of Oleshkivski Pisky needs to be given to the Armed Forces for locating a military testing ground, and this can be done only by cancelling the national park status, on which the Ministry of Defence addressed to the President Petro Poroshenko.

However, the situation changed radically during the meeting. The representative of the State Forest Agency informed (<https://youtu.be/2p0bhZxAd7k>) that there are land plots within the Agency system, which can be given for the testing ground. Representatives of the Ministry of Defence stated that the actual area required for setting up a testing ground comprises 5,300 hectares, which can be located outside the national park (<http://bit.ly/oleshky16>).

Allocation of the new site for the military testing ground is still in progress, but exercises have been stopped in the national park, and the enclosure is removed.

Military regiments are occupying several land plots of the Meotyda National Park, including that of the former Polovetskyi Steppe Regional Landscape Park (Donetsk Region) now forming part of the Meotyda. In particular, shooting range for small guns, large calibre machine guns, and mine throwers, together with timber boards covered with various materials, used as targets, was located there. Only a steep slope where the targets are placed on, protects the nearby village. The testing ground is too far from the fighting line to state that it is critical to place it here. There were no approvals from the national park management or of the Ministry of Ecology and Natural Resources.

Near Rybatske Village, Donetsk Region, defence structures and pillboxes are being built without required approval of the Ministry of Ecology and Natural Resources or of the national park management.

Azovo-Syvaskyy NNP (Kherson Region) actually remained unprotected due to the occupation by the Armed Forces of Ukraine, as unsanctioned military exercise is held here, with use of gamekeeper posts as targets.

Manoeuvres were also started in the *Tuzlivski Lymany National Park* in Odessa Region. However, active interference of the national park managers stopped them and forced the military to restore the damaged site (Southern courier 2016).

In April 2016, without the approval of the management of *Dzharylhatskyi National Park (Kherson Region)*, a military exercise was carried out by the frontier guard and coast guard, near the lighthouse (<https://youtu.be/bZySX8NSA5E>) and along the island seacoast (<https://youtu.be/Lk8jVwG68ds>).

On 5 October 2016, military people tried to get to Dzharylhach Island in two KRAZ trucks and one GAZ-66 truck. The latter sank, together with one KRAZ which tried to tow it out. Both vehicles were rescued by the second KRAZ. This drive also was not approved by the frontier guard and the national park management.

A special operations force regiment came to the territory of the *Medobory Natural Reserve (Ternopil Region)*, acting illegally, without any notice to the natural park management, with the aim to hold joint Ukrainian-American military exercises with shooting (Teren 2016). This situation was settled very unexpectedly: after a conversation with the natural park security service, American instructors refused to stay there.

Military manoeuvres were also known to be held within the *Luhanskyi Natural Reserve*, namely its part Triokhizbenskyi Step (Luhansk Region).

According to Director of the *Askaniya-Nova Biosphere Reserve (Kherson Region)* V.S. Havrylenko, military machinery of unknown regiments (https://youtu.be/ieD_iTXyXU) passed through the natural reserve, a complete reserve steppe site. It is known that on 19 September 2015, a commander of an unknown division led a column of 6 infantry combat vehicles (ICV) for 17,140 metres through the Askaniya-Nova Biosphere Reserve of the National Academy of Agrarian Sciences of Ukraine. The column going along the automobile road from Chkalove Village, Novotroyitsk District, Kherson Region, towards Askaniya-Nova Urban Settlement, Chaplynka District; having reached the biosphere reserve border marked with a stela and a 1.5 x 2 m nameplate in brick frame, the ICVs crossed the border moat and entered the territory of the reserve, passing through the buffer zone and after 1.5 km, having crossed the 8 m fire protection strip, entered the steppe natural reserve area (the Pivdenna site – a 6,578 hectare dry plant stand area), in spite of the sign forbidding to enter or drive in. The Pivdenna site is a territory with unique natural combinations of plants and animals on protection lists including the Red Book of Ukraine, and, at the same time, is extremely vulnerable to fire. In spite of the warning from a natural reserve employee, the track machines continued their way through the nature reserve steppe. Only interference by Director V.S. Havrylenko forced the military people to leave the steppe.

Apart from that, military helicopters flew directly above the habitats in the reserve.

The Ministry of Defence planned to have missile complexes deployed on the territory of the *Chornomorsky Biosphere Reserve* (Kherson Region) and to hold exercises (Decision of the National Security and Defense Council dated 11 November 2015, entering into force by the Decree of the President of Ukraine dated 1 December 2015 No 672-22 "On urgent measures for improvement of the state's anti-aircraft defense").

The possibility of creating such a military testing ground was actively studied in the first half of 2016 on the level of the Cabinet of Ministers of Ukraine. The Chornomorsky reserve administration received several enquiries on this matter from the Ministry of Defence, requesting to clarify how land can be taken from the reserve. Moreover, the Ministry of Defence are pressing the natural reserve management for permission to deploy missile complexes on its territory (https://youtu.be/70QRi_2U660). This issue is also known to be under the control of the Security Service of Ukraine (SSU; Letter from the Main Administration of Counter-Espionage Defense of the State Interests in Economic Safety of the Security Service of Ukraine dated 13.06.2016 No 8/2/3-7115).

In the opinion of the Ministry of Defence of Ukraine, it is necessary to withdraw 5,500 hectares of the Yavorlytsky Kut stow (the whole stow; one-third of the whole land part of the reserve) and to set up a testing ground for anti-aircraft missile and reactive weapons, and aircraft, as well as for training launches of battle missiles. The reasons for placing missiles here are that there are the remains of an earth wall from Soviet times that is suitable for installing such a complex (by the way, the natural reserve does not have the act of title for this land, and most probably this site still belongs to the Ministry of Defence), and also the need to locate such objects at the distance of 90 km from the nearest settlements. Yavorlytsky Kut and the central part of the isthmus in Tuzlivski Lymany National Park are suitable locations of this sort in Ukraine.

The territory of Yavorlytsky Kut is one of the wildest zones of the Ukrainian seacoast. Currently this territory constitutes the central nucleus of the biosphere reserve (The Black Sea Biosphere Reserve 2016). Thus, it is not possible to legally acquire this site.

In 1985, the Chornomorsky Biosphere Reserve was included into the World Network of Biosphere Reserves, which is confirmed with the UNESCO certificate dated 15 February 1985. Acquisition of the key site of this international reserve would inevitably be a severe blow to Ukraine's reputation in the global arena and would lead to exclusion of this reserve from the UNESCO list.

The Askaniya-Nova Biosphere Reserve was visited by OSCE representatives headed by Mr. Andrew Richardson. The issue of Ukraine fulfilling its obligations on maintenance and preservation of international nature protection objects protected by UNESCO was raised (Chornomorsky Biosphere Reserve, Askaniya-Nova Biosphere Reserve). Representatives of the

mission were most surprised that no one from the Ukrainian Armed Forces has met with the management of any of the natural reserves.

Due to lack of information, it is impossible to fully assess the impact of the Armed Forces of Ukraine onto the local natural reserve stock. However, we have data from our own sources about military manoeuvres held in the Druzhkivka Stone Trees Natural Monument and deployment of military machinery in the "Forest on Granite" natural reserve stow (both in Donetsk Region).

Conclusions

Loss of government control over a part of the Ukrainian territory has led to physical damage of a considerable part of PAs on such territories, including the ones in steppes. Apart from that, on the territory controlled by Ukraine, defence improvement has led to increase of military manoeuvres. In a series of cases, they were held within PAs. Until present time, no efficient cooperation has been started between the Ministry of Defence and the Ministry of Ecology and Natural Resources on ensuring ecological safety during military activity, while this approach is one of NATO standards, to which the Ukrainian army has to aspire, in our opinion. The first step should be monitoring the current status and damages of PAs as the result of military activity.

Acknowledgement

We are very grateful for the Translation Bureau "L'agency" for translating the text into English.

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Short contributions

Phytodiversity of Palaeartic grasslands: call for standardised data

Since 2009, EDGG conducts its Research Expeditions/Field Workshops to sample **high-quality multi-scale phytodiversity** data from less well documented regions of the Palaeartic biogeographic realm with a standardised methodology (Dengler et al. 2016b). Through these events as well as through similar sampling approaches, mostly by EDGG members, there is meanwhile a large body of standardised data (Dengler et al. 2016a) that could allow analyses of biodiversity patterns and their drivers across biogeographic gradients. As already announced by Dengler et al. (2016a), we are now aiming at complementing our dataset as far as possible with compatible data from the literature and from you, the EDGG members.

What we are looking for are phytodiversity data sampled on plots of the following **standard areas: 0.0001 m², 0.001 or 0.0009 m², 0.01 m², 0.1 or 0.09 m², 1 m², 10 or 9 m², 100 m², and 1000 or 900 m²**. We preferentially look for nested-plot multi-scale data, but we also take data for single grain sizes, provided they were carefully sampled with the aim of complete species lists, i.e. we request that **plots have been precisely delimited in the field**, usually with metal pins and a measuring tape, which typically is not the case for conventional phytosociological relevés. **Any type of grassland s.l. from the whole Palaeartic** biogeographic realm (Europe, North Africa, West, Central and North Asia) is welcome. Data of **vascular plants and/or terricolous non-vascular plants (bryophytes, lichens and macroalgae)** can be provided. While you can provide just richness counts per plot (together with metadata, such as plot size, coordinates, grassland type), even more valuable are data with species composition and potentially cover + selected environmental data.

We primarily seek such data for a much more comprehensive **follow-up paper** to previous overviews (Dengler 2005; Chytrý et al. 2015; Dengler et al. 2016a) on **maximum, mean and minimum richness of different Palaeartic grasslands**. All those who contribute suitable data by **20 January 2017** to Idoia Biurrun (see below; please contact her before data delivery to discuss suitable formats) will become co-authors of the paper planned in 2017 for an international journal. If you agree, we would also add your data to the **Database Scale-Dependent Phytodiversity Patterns in Palaeartic Grasslands** (<http://www.givd.info/ID/EU-00-003>; Dengler et al. 2012), which currently is a loose data compilation but on the way to a more integrated data platform. The data there are generally

available to research projects of the contributors, but with individual agreements in each case (i.e. usually involving a co-authorship agreement). There will be a **Workshop Phytodiversity of Palaeartic Grasslands in March 2017 in Bayreuth** organised by Jürgen Dengler, where we will develop paper projects and grant proposals based on this common dataset. This workshop will hopefully be funded for a group of already agreed project partners, but a few others with own funding could potentially join. If you are interested, please contact Jürgen Dengler (see below).

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A new project to support the Steppe national nature parks of Ukraine

The NGO «Feather Grass Steppe» has begun its project "Preservation of biodiversity of Steppe landscapes in the coastal national parks of Ukraine" with the active support of the Small Grants Programme of the Global Environment Fund (SGP GEF) and the United Nations Development Programme (UNDP). The work is scheduled to be carried out from September 2016 to June 2017.

The Steppe landscape is the main natural landscape type of the coastal areas of eastern Ukraine — the Khersonska, Zaporozhska, and Donetsk oblast's. It has shaped the local agricultural practices in private holdings, providing plentiful grazing for cattle. Also, the Steppe landscape (including sandspits, granite and sandstone outcrops) is a major tourist attractant of the region, after the coast itself. In 2010, a significant part of this landscape was included into national nature parks «Meotida» (Donetska oblast'), «Priazovsky» (Zaporozhska oblast') and «Dzharylgatskiy» (Kherson'ska oblast'). Currently, the location of the national parks is not well known by potential visitors, while the local people are ignorant about the workings of national parks as special nature conservation entities and frequently break the law within their borders, and scientists only occasionally choose the parks for their surveys.

The territory of all three national parks was, in fact, granted special conservation status as early as 1927 as part of the "Nadmorskiye zapovedniki" (Seashore Reserves) that were created then. When the Reserves were cancelled in 1932, the conservation status was lost – and regained only in 2010. Nowadays, we face an urgent task to help the young parks by informing the population about their role in nature conservation and involving scientists and tourists in their functioning.

Project goal: promotion of national nature parks in Zaporozhska, Khersonska and Donetsk oblast's amid the local community, tourists and environmentalists.

Subgoals: preparation of video materials and a series of booklets about national nature parks "Dzharylhatskiy", "Meotida" and "Priazovsky"; publication of the aforementioned booklets; preparation of a conference on tourism and biodiversity conservation in the coastal Steppe national nature parks, and specific measures to improvement of material and technical basis in all three national parks.

In 2014, the NGO «Feather Grass Steppe» already carried out a project dedicated to the conservation of the Steppe in Luhanska oblast'. The results include surveys that identified promising territories to establish zakazniki (a kind of nature reserves under the law of Ukraine); an inventory of the Steppes in the oblast'; a book "Fifty rare plants of Luhanska oblast'" and a web-page on the nature reservation fund of the oblast'.

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Thanks to the EDGG for their help in saving the Tarutyns'kyj steppe!

"Tarutyns'kyj steppe" is a landscape reserve in Odessa Province in Ukraine (total area - 5200 ha). In the past, its territory was a part of the Tarutyns'kyj military range (the total area of steppe within the military range was 24,000 hectares). After 2004, the military range was liquidated and the majority of its territory could not be saved. With the consent of the local authorities, the land began to be plowed. The activity of nature conservationists helped to save the center of the former military range (5200 ha) and in 2012 a landscape preserve was declared. After "Askania-Nova", the "Tarutyns'kyj steppe" became the second steppe protected area in Ukraine.

In early October 2016, the members of the "Center for Regional Studies" organization (in Odessa) found out that this landscape reserve was being plowing up by tractors. It was also turned out that the local units of Ministry of Defense of Ukraine entered into illegal contracts of lease with farmers, pretending that this land is military land. The destruction of



Tarutyns'kyj steppe. Photo: M. Yakovlev.

a landscape preserve gave impetus to the largest environmental campaign in 2016, which promptly started in a few days in Ukraine. Hundreds of Ukrainians, politicians, influential non-governmental organizations joined the campaign. From Western Europe the first appeal was sent by the members of EDGG, and also by representatives of WWF. Dozens of articles about the destruction of "Tarutyns'kyj steppe" began to appear in the mass media (especially in the local mass media in Odessa Province). All the media as one gave their support to environmentalists and condemned the actions of the Ministry of Defence. Environmentalists of international charity organization "Environment. People. Law" and experts of WWF have estimated the damage caused to "Tarutyns'kyj steppe" landscape preserve in 12.4 billion UAH. The international charity organization "Environment. People. Law" appealed to the court to stop the work on the territory of the preserve and to reverse the damage caused by the farmers to the steppe. Things began to change after the press-conferences in Kiev and Odessa and radical and heroic actions of the leaders of the National Nature Park "Tuzly Lagoons" (Ivan Rusev and Iryna Vykhrystyuk). Iryna and Ivan with their colleagues came to the place where destructive operations took place and stopped the working tractors on their own. Nevertheless, 1300 hectares of the territory of landscape preserve was already destroyed.

Courts took decisions in favor of the landscape preserve.

The Defense Minister personally invited environmentalists for a meeting and proposed to find a way of resolving the situation together.

A joint working group was formed to combat for the negative impact of military activities on the protected areas. This group includes members of NGO's, the Ministry of Environ-

ment and Natural Resources and the Ministry of Defense of Ukraine.

On the 22 of December 2016 the secretary of the Environment Committee Ostap Yednak, together with NGO's announced the names of officials awarded with prize for "Beastliness of the year" (In Ukrainian: "Svynstvo roku").

Stepan Poltorak, Ukrainian Defence Minister, received a medal depicting a pig snout in a category "destroyer of the natural heritage".

A detailed report about the struggle for the "Tarutyns'kyj steppe" will be published in the next issue of the EDGG Bulletin.

Videos from "Tarutyns'kyj steppe":

"Tarutyns'kyj steppe" bird's-eye

<https://www.youtube.com/watch?v=uoWiusFbkX0>

Farmers destroy Tarutyns'kyj steppe"

<https://www.youtube.com/watch?v=Mu342miA3g>

Ukrainian ecologists (I.Rusev and I.Vyhrystyuk) stop plowing of Tarutyns'kyj steppe"

<https://www.youtube.com/watch?v=S-8Cu4IMoXU>

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Ploughing of the "Tarutynsky steppe" landscape reserve, 2016. Photo: I. Rusev. https://scontent.xx.fbcdn.net/v/t1.0-9/15202761_624914401027989_5790781066102384467_n.jpg?oh=6f97b9950a68edb9416e754bc237bb04&oe=58E0D193

On a spider species new to science collected during the EDGG 7th Field Workshop in Spain

The 7th Field Workshop was held on 16–23 June 2014 in Navarre, Spain. This event, its aims and first results were described in detail in the EDGG Bulletin No 24/25 (Biurrun et al. 2014). One of the targets of the Workshop was to expand the research to a multi-taxon level. While my colleagues spent hours in a thorough description of the relevés, I roamed around collecting spiders at the biodiversity plots and their vicinities. Spiders were sampled by sweep-netting and hand collecting. The material comprised more than 200 adult individuals of 98 species. A pleasant surprise was finding of a species new to science.

So, let me introduce *Pulchellodromus navarrus* Kastrygina, Kovblyuk & Polchaninova, 2016 from the family Philodromidae. As you can guess, it was named after Navarre, the Autonomous Community of Spain in memory of our expedition. At present, the genus *Pulchellodromus* contains 13 species; except the three with wider distribution, all of them are known from the Mediterranean Region, which is the centre of the genus origin.

P. navarrus was collected near the villages of Iza and Lorka, 436–533° a.s.l., on insolated slopes covered with occasionally

grazed steppe vegetation (Kastrygina et al. 2016). The material is deposited in Zoological Museum of the Moscow State University, Russia and Museum of Nature of the V.N. Karazin Kharkiv National University, Ukraine.

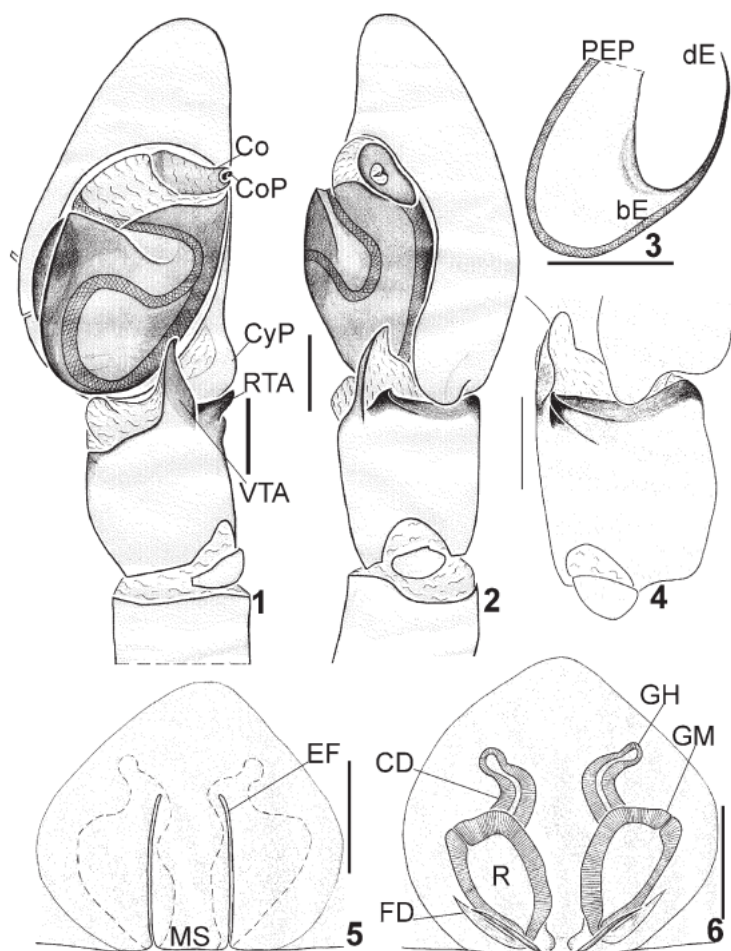
I am thankful to all the Workshop participants for cooperation and creation of the working mood.

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Figs. 1–6. Male and female of *Pulchellodromus navarrus* sp.n.: 1 — palp, ventral view; 2 — palp, retrolateral view; 3 — embolus, dorsal view; 4 — tibia, dorso-retrolateral view; 5 — epigyne, ventral view; 6 — epigyne, dorsal view. Scale bars: 0.1 mm.

Abbreviations: bE — basal embolus; CD — copulatory duct; Co — conductor; CoP — conductor process; CyP — cymbial process; dE — distal embolus; EF — epigynal fold; FD — fertilization duct; GH — glandular head; GM — glandular mound; MS — median septum; PEP — paraembolar projection of the embolus; R — receptaculum; RTA — retrolateral tibial apophysis; VTA — ventral tibial apophysis.

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Book Review

Here we present recently published books that might be relevant for grassland scientists and conservationists, both specific grassland titles and faunas, floras or general books on ecology and conservation biology. If you (as an author, editor or publisher) would like to propose a certain title for review, or if you (as an EDGG member) would like to write a certain review (or reviews in general), please contact the Book Review Editor ([anyameadow.ak@gmail.com](mailto:anameadow.ak@gmail.com)).

Mucina, L., Bültmann, H., Dierßen, K., Theurillat, J.-P., Raus, T., Čarni, A., Šumberová, K., Willner, W., Dengler, J., Gavilán García, R., Chytrý, M., Hájek, M., Di Pietro, R., Iakushenko D., Pallas, J., Daniëls, F.J.A., Bergmeier, E., Santos Guerra, A., Ermakov, N., Valachovič, M., Schaminée, J.H.J., Lysenko, T., Didukh, Y.P., Pignatti, S., Rodwell, J.S., Capelo, J., Weber, H.E., Solomeshch, A., Dimopoulos, P., Aguiar, C., Hennekens, S.M. & Tichý, L. 2016. Vegetation of Europe: Hierarchical floristic classification system of vascular plant, bryophyte, lichen, and algal communities. *Applied Vegetation Science* 19, Supplement 1: 1-264.

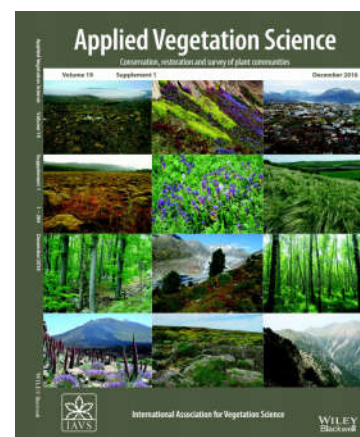
The theory and practice of vegetation surveys has developed greatly in Europe in recent decades, motivated by the need for a reliable vegetation classification as a tool for nature conservation and land-use planning (Rodwell et al. 1995). After several decades of phytosociological studies scattered all over Europe, the need for a single classification system which can be used as a reference arose. Accordingly, the last two decades have seen the development of several national vegetation surveys in Western and Central European countries, but the first overview at European scale was given by the publication *The Diversity of European Vegetation* (Rodwell et al. 2002), which can be seen as a pioneer. Since then, much progress has been made in the knowledge of European vegetation through the activities of the European Vegetation Survey and, at the same time, national vegetation surveys were conducted in Southern European countries. All this progress made clear the need for the development of a new and more complete overview of the vegetation at the European level, and a big team of vegetation scientists took over this task.

Last November a special issue of *Applied Vegetation Science* was published devoted to the long-awaited work "Vegetation of Europe: Hierarchical floristic classification system of vascular plant, bryophyte, lichen, and algal communities". This milestone publication presents a new, global hierarchical syntaxonomic system of alliances, orders and classes of the Braun-Blanquet syntaxonomy for vascular plant, bryophyte,

lichen and algal communities and provides a list of diagnostic species for all classes of European vegetation. In total, 150 classes are accepted in the EuroVegChecklist contained within this publication: 110 dominated by vascular plants, 27 by bryophytes and lichens and 13 by algae. A brief ecological and geographical diagnosis is provided

for each class, as well as synonyms for all ranks, and 15,734 diagnostic taxa are assigned to classes. All this information is provided in several appendices, of which appendices 1-3 make up the core, corresponding to the Conspectus of the high-rank syntaxa of the European vegetation dominated by vascular plants (EVC1), bryophytes and lichens (EVC2) and algae (EVC3), respectively. The ordering and grouping of classes follows the conceptual framework of vegetation zonation. The EVC1 starts with the zonal classes, following an order from the north to the south, thus, from the Arctic and Boreal to Temperate and Mediterranean zones. Intrazonal vegetation is included as separate group of classes inside the respective zone, and, finally, azonal vegetation is grouped according to the main ecological gradients such as moisture regime or salinity. Anthropogenic vegetation goes in the end. The main grouping of the bryophyte and lichen classes reflects substrate, soil, rock and bark, leaves and wood. Finally, algal syntaxa are first divided into non-marine and marine habitats. The former are ordered from wet to dry environments, and the latter are ordered along the tidal zonation. The diagnostic species of the classes included in EVC1, EVC2, EVC3, as well as selected references linked to these classes, are provided in several on line appendices.

The software tool EuroVegBrowser collates the syntaxonomic systems of vascular plant communities (EVC1), bryophyte and lichen communities (EVC2) and algal communities (EVC3), the species lists and the bibliographic files and enables viewing and browsing through the accepted syntaxa in a hierarchical



structure. I have experienced myself the usefulness of this tool, which can be easily installed following the instructions detailed in Appendix S5.

Congratulations to the authors of this major contribution, who deserve the gratitude of all scientists working in this field for providing this comprehensive overview of European syntaxonomy. It is indeed a stepping stone in the European Vegetation Survey, which will be used by vegetation scientists as a reference in their vegetation classification surveys, as well as in vegetation ecology studies. But it will also have high impact outside vegetation science, as it offers a single classification system for all Europe which will be easily available for ecologists, environmental managers, conservation biologists, etc. We must consider that the typologies produced by vegetation classification are useful not only for communication about complex vegetation patterns or the formulation of hypotheses about the ecological and evolutionary processes shaping these patterns, they are also useful for creating maps that display the spatial variation of vegetation and related ecosystem services, for surveying, monitoring and reporting plant and animal populations, communities and their habitats, as well as for the development of coherent management and conservation strategies (Dengler et al. 2008). Thus, the EuroVegChecklist can be considered an essential tool for European nature conservation as it provides a solid common currency to which all the national concepts can be cross-referenced, thereby enabling uniform interpretation of habitat types across Europe.

As the authors state in their introduction, “this new, nomenclaturally stable and scientifically robust vegetation system will not be viewed as an end point. Our EuroVegChecklist was compiled in a spirit of serving vegetation science and its users. It is our expectation that it will be further expanded, revised and made user-friendly”. I must agree with the authors on this point, as any vegetation scientist who goes through this excellent publication will certainly have his or her own opinion about the decisions taken by the authors for some vegetation types. In some cases, even the authors themselves do not agree with some of the solutions, as they have clearly specified in the Conspectus. Generally speaking, I must say that the number of classes for vegetation types dominated by vascular plants tends to be quite big, as for example the separation in three classes of the zonal temperate broad-leaved forests, or the large number of segetal and ruderal classes. Certainly, if a more synthetic approach would have been followed, the criticism would come from the contrary opinion. As the authors state in their discussion, “Currently, the only operational way that probably everybody practising syntaxonomy would agree upon for how to define a *class*, is the

classical Braun-Blanquetian *extensive definition*: a class contains a set of *orders* – a situation that is not satisfactory”. And here we have to introduce the problem of context dependence, and the fact that it will not be easy to delimit how many classes we have in the European vegetation. In the end, the EuroVegChecklist is an expert-based synthesis of the European vegetation, and consequently will be from now on the essential reference for any study on vegetation classification in Europe. The compilation of large electronic databases of vegetation plots achieved by the European Vegetation Archive (EVA, Chytrý et al. 2016) allows for broad scale vegetation surveys, both at the geographical and the ecological scale, that is, enables the combined analysis of groups of classes at the European scale. Only with these broad-scale analyses following standard procedures (De Cáceres et al. 2015) will vegetation scientists be able to obtain a sound classification for the European vegetation at the class level, and will also be able to provide a more precise definition of vegetation units.

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Book Review

Heard, S.B. 2016. *The Scientist's Guide to Writing: How to Write More Easily and Effectively throughout Your Scientific Career* - 306 pp., Princeton University Press, Princeton, ISBN: 978-0-69117-022-0 Paperback - 21.95 US \$

As science worldwide has turned into an "industry", there is increasing demand to provide essential guides for and effective scientific writing. If we browse for the phrase "scientific writing" in the Google search engine, this rather unspecified search retains an approximate 22 500 000 (!) hits. It is not a big surprise that plenty of guidebooks have been written to improve the scientific writing and publishing skills of many, mostly early-career scientists.

Effective writing and publishing has also become very important in vegetation science, as was recently noted in one of the field's leading journals (Pärtel et al. 2016).

At first glance, the recently published book "**The Scientist's Guide to Writing**" appears to be just another book on scientific writing. However, on closer inspection we can see that the author does not just tell a story about effective scientific writing, but tries to train us to improve our skills in it.

The book contains 28 chapters and at the end of each chapter is a short summary, which provides a short overview of the essential information provided in the chapter. Each chapter is also supplemented with exercises with which you can practice or test your skills and abilities linked to the chapter contents.

The first, really short part of the book explains what is writing and why is it necessary to improve the writing skills of the potential authors. The second part explains how to manage our writing behaviour to reach an optimum. In the third and one of the largest parts of the book the author introduces the contents and structure of a scientific paper and how can we effectively accomplish the task by producing a scientific paper. The fourth part of the book provides guidelines for an effective writing style of paragraphs, sentences and the use of the right words.

After we have completed a manuscript the pain is not over, because the prepared manuscript must be published somewhere. Thus, we will receive some reviews or opinions from the side of the editors and reviewers, which we should address. The fifth part of the book provide guidelines how to treat reviewer comments, thereby increasing the chances of success in getting the paper published.

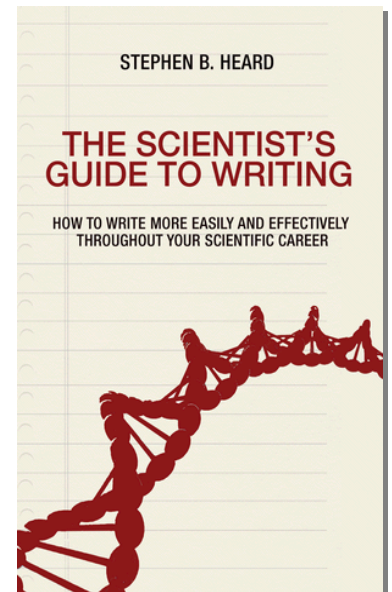
In the sixth part, the author introduces three other related and important questions: (i) How to manage other types of scientific writing, i.e. book chapters, grant applications or reviews? (ii) How to most effectively work together with co-authors? and (iii) How to write effectively as a non-native speakers?

In the last part of the book the author tries to summarise the essence of scientific writing and gives his personal opinion on the writing process and the product, concluding that the most important thing in scientific writing is its clarity.

All in all, the book is very useful guideline for scientists in all career stages. The book captures the essence of scientific writing in a very amusing way, and makes even the difficult aspects of scientific communication really enjoyable to read.

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Book Review

Clayton, S., Myers, G. 2015. Conservation Psychology: Understanding and Promoting Human Care for Nature, 2nd Edition. - 344 pp., Wiley-Blackwell, ISBN: 978-1-118-87460-8 Paperback - €50.00

"We are living on the surface this planet, with only the resources of this planet, with the fertility of its soil, with its mineral wealth, and with its climate and atmosphere. It has always been task of mankind to find the right answer to the problem these conditions set us, and even today we cannot think that we have found a sufficient answer"
(Alder, 1956, p.131)

This phrase of Alfred Adler, quoted in the book "Conservation psychology" by S. Clayton and G. Myers excellently expresses the essence of the book. The issue of relations between man and nature, especially causing environmental problems and even disasters, is covered in a huge number of books. The solutions of many of the existing problems should therefore be sought at the intersection of such spheres of human activity as nature conservation and psychology. The authors define "Conservation psychology" as the use of psychological techniques and research to understand and promote a healthy relationship between humans and the natural environment.

The book is split into three parts. The first one is titled "Human experience of nature". It deals with, so to speak, three degrees of immersion of humans in nature: from easy contact in the chapter "Domestic nature", devoted to the relationship of man with pets and plants in domestic gardens, to full immersing in the chapter "Wild nature". The chapter "Managed nature", implying zoos, city parks, botanical gardens, where wild animals and plants are transplanted from nature into artificial conditions is considered as an intermediate level of such immersion. In addition, the book includes the preliminary results of research on the human interaction with virtual, i.e., simulated nature.

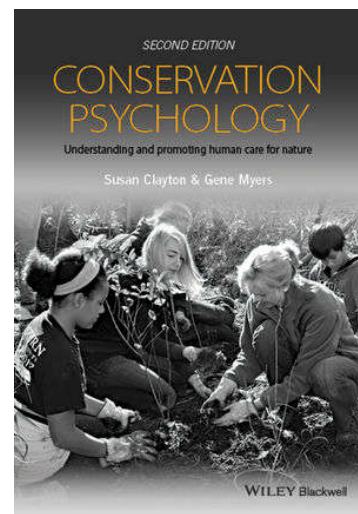
In the second part of the book, which has the title "Thinking about nature" the reader step by step gets acquainted with the way a man perceives the nature and environmental problems, considering ethical and religious aspects of nature perception as well as the perception of the man himself in the environment. The role of media is particularly emphasized as a factor affecting the perception of the nature by modern

human, and sometimes much more powerful factor than our own experience.

The last part "Encouraging a sustainable relationship between humans and nature" reveals the practical aspects of the *conservation psychology* in terms of possible changes in human ecological outlook and relevant changes in his behavior, the psychological aspects of environmental education and awareness, as well as the role of positive psychology in solving environmental problems and helping mankind to flourish.

Perhaps, the most interesting for our readers, considering the activities of our group, will be the Chapter 10 "Community psychology and international Biodiversity Conservation", especially the part which relates to the conservation of the most valuable areas of nature in nature reserves and national parks. Undoubtedly, the EDGG members who deal with the establishment of protected areas and their management, and especially those who are working in nature reserves and national parks have been faced at least once with a situation where the locals generally agree with the statement that nature needs to be protected, but only in the abstract, somewhere far away from their land. And often enough they expressed disagreement and even show aggression in regard to the creation of a protected area on land belonging to them. Professional ecologists and conservationists have not always tried to understand the position of local communities in this issue because of differences in worldviews. The book "Conservation psychology" can help them to find a way out of such situations, as the authors attempt to reveal the psychological mechanisms of such conflicts.

Many aspects covered in the book are global and relevant for all mankind. The idea that people are primarily concerned about their economic well-being thus emerges in several chapters, and that a society is only able to think about more abstract things such as nature conservation after achieving economic stability. The authors provide a lot of evidence for this thesis around the world, but also many exceptions to this rule. The barbaric destruction of natural wealth can be observed in many prosperous societies, whilst there are exam-



ples of respect for nature, especially when it has a sacred meaning, in less economically developed societies.

However, many aspects of the conservation psychology have a very clear regional and national identity. Nevertheless, the vast majority of studies mentioned in the book reflect the realities of American society, which is understandable, given that both authors are Americans. These results can probably be extrapolated to other economically developed countries of the world, although in many cases they are hardly relevant even for prosperous countries in Western and Central Europe, taking into account the socio-economic and cultural differences. Moreover, it is difficult to apply them in countries of Eastern Europe. Unfortunately, almost nothing is said in the book about the peculiarities of conservation psychology in the post-Soviet countries. This is most likely due to lack of English-language literature on the subject. However, it is clear that these countries are inherent their own peculiarities of conservation psychology, as well as very sharp social conflicts, including those related to the organization of environ-

mental protection activities, which is weakly reflected in this field of research and, accordingly, in the book under review.

In my opinion, the book may be of interest not only to biologists and psychologists working in the field of environmental protection, but also to a wide range of professionals involved in the scope of conservation psychology - from the media to the representatives of authorities of different levels. As for the members of our group, probably reading of this book and other books of similar subjects help them to see things that seemed familiar and habitual from a new angle, and will contribute to avoiding many mistakes in the organization of grasslands protection and management as well as a better understanding of the causes that force us to engage in this activity.

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Saga pedo. Photo: J. Dengler.

Recent publications of our members

In this section, the contents of which will also be made available via our homepage, we want to facilitate an overview of **grassland-related publications** throughout Europe and to improve their accessibility. You are invited to send lists of such papers from the last three years following the format below to anyameadow.ak@gmail.com and didem.ambarli@gmail.com. We will include your e-mail address so that readers can request a pdf. For authors who own full copyright, we can also post a pdf on the EDGG homepage. As we plan to publish a book about the Palaearctic dry grasslands at some point in the future, under the auspices of the EDGG, we would appreciate if you could send a pdf (or offprint) of each of your dry grassland publications to juergen.dengler@uni-bayreuth.de.

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Vegetation/syntaxomy

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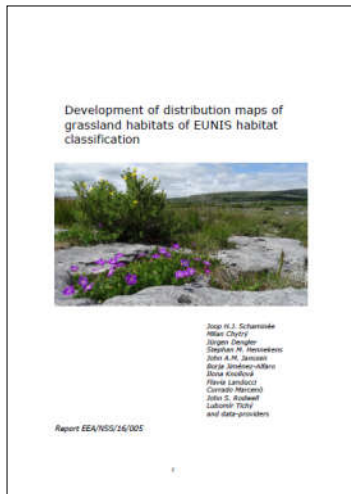
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Schaminée, J.H.J., Chytrý, M., Dengler, J., Hennekens, S.M., Janssen, J.A.M., Jiménez-Alfaro, B., Knollová, I., Landucci, F., Marcenò, C., Rodwell, J. S. & Tichý, L. and data-providers 2016. Development of distribution maps of grassland habitats of EUNIS habitat classification. - Report EEA/NSS/16/005.—DOI: 10.13140/RG.2.2.31608.44802.



This projects aims at parameterising the grassland units of the revised EUNIS habitat classification across Europe. Using the comprehensive plot dataset from the European Vegetation Archive (EVA), all grassland habitats (habitat group E) of Europe (including the coastal grey dunes, habitat subgroup B1.4) are formally defined with a unanimous floristic definition (with a new expert system approach, implemented in JUICE).

Available from Research Gate:

<https://www.researchgate.net/publication/311576694>

Janssen, J.A.M., Rodwell, J.S., Garcia Criado, M., Gubbay, S., Haynes, T., Nieto, A., Sanders, N., Landucci, F., Loidi, J., (...) & Valachovič, M. 2016. European Red List of Habitats - Part 2. Terrestrial and freshwater habitats. DOI: 10.2779/091372

The European Red List of Habitats provides an overview of the risk of collapse (degree of endangerment) of marine, terrestrial and freshwater habitats in the European Union (EU28) and adjacent regions (EU28+), based on a consistent set of criteria and categories and detailed data and expertise from involved countries. The European Red List of Habitats provides extensive additional information on habitat



classification and definition, pressures and threats, conservation and restorability of habitats, distribution, status and trends in individual countries, and sub-habitats that may possibly be threatened. The information provided can inform and support European nature and biodiversity policy in a variety of ways, particularly in relation to the EU2020 Biodiversity Strategy targets. Further applications include the revitalisation of the EUNIS habitat classification, synergies with the Mapping and Assessment of Ecosystems and their Services initiative, and the improvement of Red List methodologies

Available from Research Gate:

<https://www.researchgate.net/publication/311729785>

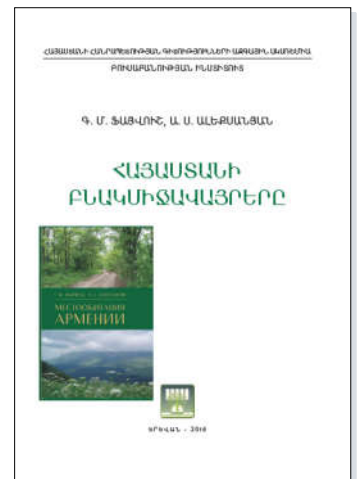
Fayvush, G.M. & Aleksanyan, A.S. 2016. Habitats of Armenia. National Academy of Sciences of the Republic of Armenia, Institute of Botany, Yerevan: 360 pp., ill.

The monograph is devoted to the variety of habitats in Armenia. The diversity of natural and climatic conditions, rich in geological and social history, changes in political and economic life of the country led to the formation on its territory a huge amount of variety of habitats.

The main part of the work is an annotated catalog of Armenian habitats, which includes about 750 names of categories of different levels. EUNIS habitats classification was used in the monograph for the variety of habitats of Armenia. Of the 10 categories of the first level, driven in Europe, there are 8 in Armenia, with 228 units of different levels absent in Europe and given here for the first time.

Available from Research Gate:

<https://www.researchgate.net/publication/303689840>



Forthcoming events

All-Ukrainian scientific-practical conference “Nature conservation in the Steppe zone of Ukraine” (to the 90th anniversary from the establishment of Nadmorski reserves)

14-15 March 2017, Mariupol, Ukraine

The conference will be hosted by the National Nature Park “Meotyda”

Contact of the organizational committee: nadmorski2016@gmail.com

8th Planta Europa conference “Save Plants for Earth’s Future”

22-26 May 2017, Kyiv, Ukraine

Host organisations will be the O.V. Fomin Botanical Garden of the Taras Shevchenko National University of Kyiv, M.G. Kholodny Institute of Botany of the National Academy of Sciences of Ukraine and M.M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine.

The conference webpage <http://8peconference.in.ua>

10th EDGG Field Workshop

3–11 June 2017, Central Apennine Mts., Italy

More information at the pages 3-12

60th Symposium of the International Association for Vegetation Science (IAVS)

20-25 June 2017, Palermo, Italy

The meeting webpage <http://iavs.org/2017-Annual-Symposium/Home.aspx>.

The theme will be “Vegetation patterns in natural and cultural landscapes”. The pre-symposium excursion will be from June 11–18 (Sunday–Sunday). The focus will be on coastal landscapes of Sicily: Along the Sicilian coast, from Capo San Vito (NW Sicily) to Capo Passero (SE Sicily), including two days on the Island of Marettimo (max 30 participants). The post-symposium excursion will be from June 25–July 1 (Sunday–Sunday) and will visit the Sicilian Mountains (for well-trained hikers): Etna, Nebrodi, Madonie (max 30 participants). The symposium venue will be the Palermo Botanical Garden.

14th Eurasian Grassland Conference

4-9 July 2017, Latvia/Lithuania

The meeting webpage is not yet available.

More information in Bulletin 32

37th Eastern Alpine and Dinaric Society for Vegetation Ecology Meeting

13-16 July 2017, Prizren, Kosovo

The symposium is organised by the Eastern Alpine and Dinaric Society in collaboration with: University “Haxhi Zeka” of Peja, Republic of Kosovo (<http://unhz.eu/>), University “Ukshin Hoti” of Prizren, Prizren, Republic of Kosovo (<http://uni-prizren.com/>)

The meeting webpage <http://www.eadsve.org/>

26th European Vegetation Survey Meeting

13-16 September 2017, Bilbao, Spain

The meeting will be hosted by the University of the Basque Country (Javier Loidi and colleagues).

The meeting webpage <http://ehu.eu/evs2017>

Second Interdisciplinary Symposium “Biogeography of the Carpathians”

27-30 September 2017, Cluj-Napoca, Romania

The symposium webpage is not yet available

ComEc -the First Conference on Community Ecology

28-29 September 2017, Budapest, Hungary

The First Conference on Community Ecology is the opening of a conference series accompanying the journal Community Ecology. The scientific focus is quite wide, presenting all aspects of community ecology and its connections to landscape ecology, multivariate statistics, systems ecology, vegetation science, macroecology and many other fields.

The conference webpage <https://e-conf.com/comec2017/registration/>

27th European Vegetation Survey Meeting

spring 2018, Wrocław, Poland

The meeting will be hosted by the University of Wrocław (Zygmunt Kącki and colleagues).

61th Symposium of the International Association for Vegetation Science (IAVS)

23-27 July 2018, Bozeman (Montana), U.S.A.

The meeting webpage is not yet available.

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Important dates: The deadline for Bulletin 34 is 15 January 2017

Bulletin 34 to appear: February 2017

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Prunella laciniata, Romania. Photo: J. Dengler.