

PALAEARCTIC GRASSLANDS

Journal of the Eurasian Dry Grassland Group



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Palaeoartctic Grasslands

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Palaeoartctic Grasslands, formerly published under the names *Bulletin of the European Dry Grassland Group* (Issues 1–26) and *Bulletin of the Eurasian Dry Grassland Group* (Issues 27–36), is the journal of the Eurasian Dry Grassland Group (EDGG). It appears in four issues per year. *Palaeoartctic Grasslands* publishes news and announcements of EDGG, its projects, related organisations and its members. It also serves as an outlet for scientific articles and photo contributions.

Palaeoartctic Grasslands is freely available at <https://edgg.org/publications/pg-journal> and new issues are announced to all EDGG members. All content (text, photos, figures) in *Palaeoartctic Grasslands* is open access and available under the Creative Commons license CC-BY-SA 4.0 that allow re-use provided proper attribution is made to the originators ("BY") and the new item is licensed in the same way ("SA" = "share alike").

Submissions following the [Author Guidelines](#) are welcome by the deadlines of the four issues: 31 January, 30 April, 31 July and 31 October.

Scientific articles (Research Articles, Reviews, Forum Articles, Scientific Reports) should be submitted to the Receiving Editor Jürgen Dengler (dr.juergen.dengler@gmail.com) and will then undergo peer review, so publication in a certain issue cannot be guaranteed.

All other text contributions (News, Announcements, Short Contributions, Book Reviews, Glimpses of a Grassland, Forthcoming Events) should be submitted to Idoia Biurrun (idoia.biurrun@ehu.es).

Photo contributions (photos for general illustrative purposes with captions; Photo Stories) and contributions to the section "**Recent Publications of our Members**" should be submitted to Rocco Labadessa (rocco.labadessa@gmail.com).

Contributions to Photo Competitions should be submitted to Edy Fantinato (edy.fantinato@unive.it).

Palaeoartctic Grasslands is published by EDGG c/o Prof. Dr. Jürgen Dengler, Plant Ecology, BayCEER, University of Bayreuth, Universitätsstr. 30, 85447 Bayreuth, Germany.

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LAYOUT AND TYPESETTING: Rocco Labadessa

On front cover page: Hay meadow in the Slovenský Kras National Park, Slovakia. Photo: J. Sonkoly.

Editorial

Dear readers,

This issue of *Palaeartic Grasslands* is full of news and changes.

You will find the new EDGG Executive Committee, with a team of seven newly elected members. This is also a special moment to say goodbye and a big thank to Iwona and Anna for their invaluable service in the outgoing EC. Thank you!

Here, we are pleased to present full information about the forthcoming Eurasian Grassland Conference in Hungary, where we look forward to meeting many of you.

We are opening a call for potential venues and organizers of future EDGG Field Workshops, to continue our tradition of sampling high-quality data of open habitats in the next years.

We are also happy to publish the reports of the studies awarded with the "EDGG Fund for Ukrainian Scientists", funded in collaboration with IAVS.

We are grateful to all of the contributors of *Palaeartic Grasslands*, who have been with us throughout this busy spring season. We put a lot of effort into getting this issue published and we really hope that you will enjoy reading it.

We wish you a pleasant reading during summer days.

With best wishes,
Rocco Labadessa



Sunset meadow in Raseiniai district, Lithuania. Photo: V. Gudynienė.

News

New EDGG Executive Committee 2023–2025

The elections for the EDGG Executive Committee 2023–2025 were conducted electronically over four weeks. There were eight candidates. Each EDGG member had up to seven votes.

The results are as follow (172 members voted and cast a total of 995 votes):

- Idoia Biurrun - 166 votes
- Stephen Venn - 135 votes
- Rocco Labadessa - 123 votes
- Jürgen Dengler - 122 votes
- Denys Vynokurov - 120 votes
- Ellen De Vrieze - 117 votes
- Alireza Naqinezhad - 114 votes
- Martin Magnes - 98 votes

The EDGG Bylaws state: "Those seven candidates with the highest number of votes are elected. In the case of a tie on

the seventh position, all candidates with the same number of votes are elected. In order to improve geographic representativeness, the one member based in Europe (in a physical-geographical sense) and the one based outside Europe with the highest number of votes shall be elected even if they are not among the seven with the overall highest number of votes."

This means that the first seven candidates in the list above have been elected and the next EDGG EC will consist of seven members.

Thanks to all candidates and voters and congrats to the new EC members!

The Election Committee

Iwona Dembicz, Warsaw, Poland

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Anna Kuzemko, Kyiv, Ukraine

anymeadow.ak@gmail.com



Orobanche alsatica, Erdobenyé, NE Hungary. Photo: P. Chmielewski.

Responsibilities in the EDGG Executive Committee 2023–2025

The newly elected Executive Committee (EC) had a first meeting, during which its members agreed about the distribution of responsibilities during the next two years:

- Secretary-General: J. Dengler, Deputy: E. De Vrieze
- Contact to IAVS and Treasurer: A. Naqinezhad, Deputy: J. Dengler
- Membership Administrator: I. Biurrun
- Chief Editor of Palaeartic Grasslands: R. Labadessa, Deputies: I. Biurrun, J. Dengler & A. Naqinezhad
- Website Editor: S. Venn, Deputy: E. De Vrieze
- Social Media Administrator: E. De Vrieze, Deputy: S. Venn

- Conference Coordinator: S. Venn, Deputy: D. Vynokurov
- Field Workshop Coordinator: D. Vynokurov, Deputy: J. Dengler
- Special Feature Coordinator: J. Dengler

Please note that there is no chair or president among the seven EC members, but all have equal rights. If you have questions or suggestions to the EDGG EC, please contact the responsible member and her/his deputy.

The Secretary-General

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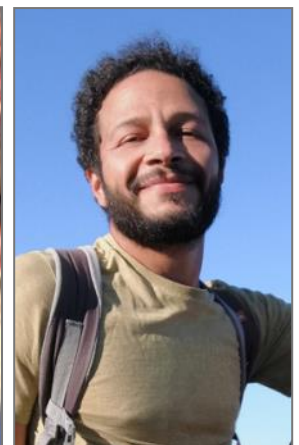
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Thank you Anna & Iwona

The new EDGG Executive Committee is missing two wonderful women that after several years of service to EDGG decided to step down and did not run again for the elections: Anna Kuzemko and Iwona Dembicz.

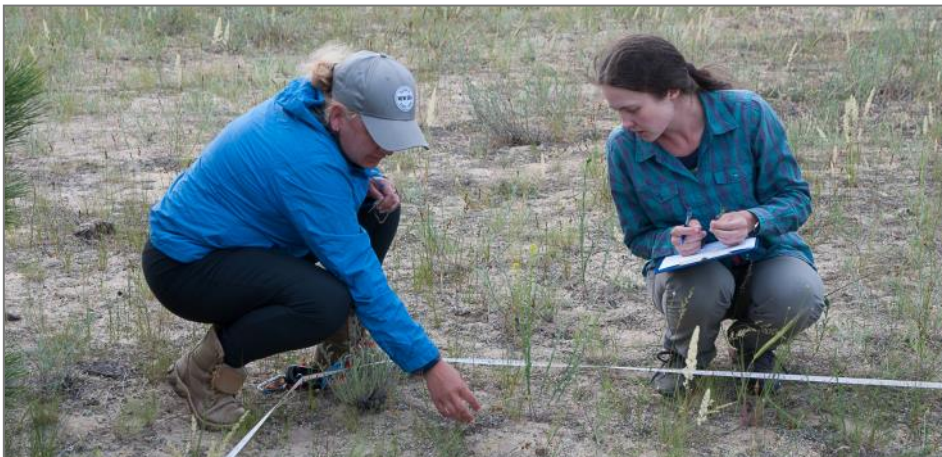
We have so much to thank them for their great service to EDGG, for their friendly behaviour and collaborative spirit... But they are very busy people, and we are also happy to see that they will be able to continue their work and their life with a bit less stress. But of course, we hope that both will continue to actively participate in EDGG events.

If I am not mistaken, I first met Anna and Iwona in 2014, in the Field Workshop held in Navarre, and since then I consider them my friends. Iwona is the representation of Field Workshops, not only because she has been their coordinator since her election as member of the EDGG Executive Committee in 2019, also because I cannot imagine a Field Workshop without her. I am aware that she could not make it to attend a few of them, but it is not so easy to track it, as she is so modest that you might forget she is there. But of course she is there, and her modesty is not a problem neither for her fantastic work, nor for enjoying together jokes, songs and laughs in a friendly atmosphere. She is a gem of a girl, and I really wish she will soon get the permanent position she deserves in Academia and continues with her research without obstacles. I wish you all the best, Iwona, and I hope we will meet soon!

Anna is my sister, a bundle of energy. She was a bit angry with me when we first met in 2014, in Bilbao bus station, I remember well. Maybe you also remember, Anna, and now we can laugh about that, and about so many things. Because laughing is your expertise. You also know how to get angry. A great personality! You have been so generous in your service to EDGG since you were elected for the first time in 2015. By the way, we started together, and shared these responsibilities since then until now. We have shared fantastic moments, as the image of Anna dancing with a brush in a Tyrolean barn with Denys and Riccardo singing operas and Ukrainian songs. These memories will never fade away. We have also shared a lot of work, tons of stress, and the satisfaction of well-made things. I know I have been quite annoying sometimes with my endless corrections for *Palaeartic Grasslands*, but I am also sure you forgave me, because this is the way you are. Now your country is immersed in this terrible invasion, and you have shown again you are a very brave woman. I was so happy to meet you, together with other Ukrainian friends, in Tolosa last year. I really hope that we will soon meet again, in a free and peaceful Ukraine.

Many many thanks to both of you!

On behalf of the EDGG Executive Committee,
Idoia Biurrun, Bilbao, Spain, idoia.biurrun@ehu.es



Anna and Iwona during EDGG field workshops. Photos: J. Dengler.

Call for photos for *Palaeartic Grasslands*

As usual, we are looking forward to your contributions to the Photo Story section, as well as your photographs for general illustrative purposes.

Submissions for the **Photo Story** section are always welcome. Photo Story is an open space where members can submit their own photo collection on a certain grassland-related topic of their choice. High-quality photos should be provided together with their captions (at least species names or landscape description), a brief text and possibly other graphical elements (like a map or a drawing). The selection of photos should fit within 4-15 (-20) pages and the contributors should propose a preliminary layout (in PDF or MS Word format), which will be finally typeset by Editors. As an example, you can look at the Photo Stories published in previous issues.

As with scientific articles, Photo Stories undergo a review process with a focus on the quality of the photographs. There is no guarantee that they will be accepted without changes, and late submissions may be published in a subsequent issue.

We would also like to encourage you to contribute to **the Global Vegetation Project** with your vegetation photographs:

- 1) If your photos have already been published in *Palaeartic Grasslands*, you can submit them to the global map citing the DOI of your article or of the whole issue (you can check all [published issues](#));
- 2) If you are submitting new vegetation photographs to *Palaeartic Grasslands*, either within an article, a photo story or for general illustrative purposes, you can provide each photo file with the following information (* = required fields): date (year/month/day); author's full name*; place name; latitude and longitude*; vegetation type; vegetation classification system; naturalness; dominant species list*; additional comments.

Please take a look at the [project website](#) for an overview of the global map and the data entry form.

If you want to contribute to Photo Stories, or if you simply want to help us with enriching this aspect of the journal, please submit your photos together with the required information to Rocco (rocco.labadessa@gmail.com).

Deadline for photo submissions is **31 October 2023**.

Rocco Labadessa, Bari, Italy
rocco.labadessa@gmail.com

Photo Competition "The colour blue in grasslands"

With 14 participants and 31 photos submitted, the call "The colour blue in grasslands" has attracted unprecedented interest for one of our Photo Competitions. The jury will now select the three best photos to be published in the next issue of *Palaeartic Grasslands*. Thank you for your great contributions.

Edy Fantinato, Venice, Italy
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Veronica praecox, steppic grassland in Valais, Switzerland. Photo: J. Dengler.

EDGG Event

DOI: 10.21570/EDGG.PG.57.8-13



Coming soon: 18th Eurasian Grassland Conference
“Conservation and management of grasslands in transforming landscapes”
Szarvas, Hungary, 25 September - 1 October 2023
<https://www.egc2023.hu/>



Autumn in the Hungarian ‘puszta’. Photo: A. Széll.

The 18th Eurasian Grassland Conference (EGC) will take place in Szarvas, Hungary, from 25th September to 1st October 2023. The conference is organized by the EDGG, the Seed Ecology Research Group at the Centre for Ecological Research and the Körös-Maros National Park Directorate. It is supported by the IAVS, the Centre for Ecological Research, the Körös-Maros National Park Directorate, and the Kiskunság National Park Directorate. The theme of the 18th EGC is ‘*Conservation and management of grasslands in transforming landscapes*’. The conference aims to improve our knowledge of the flora, fauna, diversity, management, and restoration of Palaeartic grasslands in changing landscapes.

This year's conference offers four keynote talks, an optional workshop and an optional post-conference excursion, in addition to the talk and poster sessions, mid-conference excursion and grassland party.

On 25th September, participants will have the opportunity to participate in the workshop ‘*Introduction to grassland-related spiders*’, led by Róbert Gallé, Nikolett Gallé-Szpisjak (Centre for Ecological Research, Hungary) and Tomáš Hamrík (Mendel University in Brno, Czech Republic). We welcome Corrado Marcenò, Denys Vynokurov, Szabolcs Lengyel, and András Kelemen as our keynote speakers. The mid-conference excursion will take us to the famous Hungarian ‘puszta’ in the Körös-Maros National Park, and a three-day optional post-conference excursion will take place in the diverse and spectacular grasslands of the Kiskunság National Park (29th September – 1st October). Both excursions will be guided by botanist and zoologist experts and we will have the possibility to observe unique geomorphological features, endemic and rare plants and animals, best practices and challenges for conservation and restoration as well as field experimental sites. Below you will find the detailed programme.

Conference program

25 September (Monday) Workshop, registration, keynote lecture

- 10:00 – 12:00 Workshop: Introduction to grassland related spiders (indoor presentations) (Róbert Gallé, Nikolett Gallé-Szpisjak, and Tomás Hamrík)
- 12:00 – 13:00 Lunch break (for the participants of the workshop)
- 13:00 – 15:00 Workshop: Introduction to grassland related spiders (outdoor program)
- 13:00 – 19:00 Registration
- 15:00 – 17:30 Guided tour in the zoo of the National Park
- 17:45 – 18:30 Keynote lecture by András Kelemen
- 18:30 – 21:00 Welcome reception

26 September (Tuesday) Talks and poster session

- 08:00 – 09:00 Registration
- 09:00 – 09:15 Opening ceremony
- 09:15 – 10:00 Plenary talk by Corrado Marcenò
- 10:00 – 10:30 Talks
- 10:30 – 11:00 Coffee break
- 11:00 – 13:30 Talks
- 13:30 – 15:00 Lunch break
- 15:00 – 15:45 Plenary talk by Denys Vynokurov
- 15:45 – 17:00 Talks
- 17:00 – 17:30 Coffee break
- 17:30 – 19:00 Poster session

27 September (Wednesday) Mid-conference excursion, Grassland Party and Auction

- 08:30 – 18:00 Departure from Szarvas
- 18:00 – 22:00 Grassland party and auction at the visitor centre

28 September (Thursday) Talks and poster session

- 09:00 – 10:15 Talks
- 10:15 – 10:45 Coffee break
- 10:45 – 11:30 Plenary talk by Szabolcs Lengyel
- 11:30 – 13:30 Talks
- 13:30 – 15:00 Lunch break
- 15:00 – 16:00 Talks
- 16:00 – 17:00 Poster session
- 17:00 – 17:30 Coffee break
- 17:30 – 19:00 EDGG General Assembly and closing ceremony

29 September – 1 October (Friday-Sunday) Post-conference excursion

- 29 September 08:00 Departure from Szarvas
- 1 October 17:00 Arrival at Kecskemét



The visitor centre of the Körös-Maros National Park Directorate. Photos: A. Zsolt Bencsik and Z. Babák.



Plenary speakers

Corrado Marcenò, from the University of Perugia will present a talk entitled *“Data collected by amateur botanists: coupling an old tradition and citizen science offers new opportunities for habitat monitoring and conservation”*.

[Research Gate profile](#)



Denys Vynokurov, from the M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine and the University of the Basque Country, will present a talk entitled *“New insights on the broad-scale classification of European dry grasslands and scrub vegetation”*.

[Research Gate profile](#)



Szabolcs Lengyel, from the Centre for Ecological Research will present a talk entitled *“Grassland restoration and management: a focus on animals”*.

[Research Gate profile](#)



Keynote lecture

András Kelemen (Department of Ecology, University of Szeged) will open the conference with a keynote lecture on the current situation and challenges in grassland conservation and restoration focusing on the lowland sandy areas of Hungary, with a special outlook to the habitats that we will visit during the mid- and post-conference excursions.

[Research Gate profile](#)

Venue

The conference venue will be in Szarvas (Békés County, Hungary) which is located about 150 km far from Budapest. The town, with about 17,000 inhabitants, is the touristic centre of the region, as it is situated in a nice semi-natural landscape characterized by the oxbow of the river Körös and many grasslands. Although the town is small, it has many sights to see just like the manor of the Borza family, the Arboretum Pepi-garden ('Pepi-kert'), and the Visitor Centre of the Körös-Maros National Park.

The registration and conference sessions will be held in the Visitor Centre of the Körös-Maros National Park ([Körös-Maros National Park Directorate](#), Address: Anna-liget 1. Szarvas, H-5540). The exhibition at the Visitor Centre provides a nice introduction of the habitats and conservation activities of the KMNPD, and also offers the possibility to take a tour along the oxbow of the Körös and visit the zoo with many animal species that have inhabited this area both in present days and in historical times.

The conference will take place at the Visitor Centre which has a large lecture hall, and many other facilities for discussions and social events.

Details about recommended accommodation options and tips for travelling to Szarvas can be found on the [conference homepage](#).

Registration information

The registration for the conference has been closed and the conference has reached its full capacity. We have in total 98 registered participants from a total of 19 countries. The participants have submitted in total 67 abstracts.



Animals that are/were typical in the region (zoo at the Venue). Photos: A. Zsolt Bencsik and É. Urbancsok.

Workshop

On the first day of the conference we organize an optional workshop entitled 'Introduction to grassland related spiders'. This exciting interactive workshop will provide an overview on the most important spider taxa that are related to grasslands, their main functional groups, and an introduction to sampling methodology. The program includes a brief (indoor) lecture about the theoretical background, and also an outdoor part when the participants get a practical guide about the basic sampling methods (in the grassland that is just next to the venue). The workshop will be led by Róbert Gallé, Nikolett Gallé-Szpisjak (Centre for Ecological Research, Hungary) and Tomáš Hamřík (Mendel University in Brno, Czech Republic) who are experts in arachnology and in grassland conservation.



Sampling of grassland-related spiders in Hungary. Photos: R. Gallé.

Mid-conference excursion

In the mid-conference excursion, we plan a unique 'puszta' experience: we will have an easy half-day walk in the endless grasslands in the 'Csanád puszták' protected area. We visit several types of pristine Pannonian alkali habitats in the Körös-Maros National Park. We have the opportunity to see the vertical vegetation gradient typical of alkali open landscapes. The gradient involves loess steppes (6250 Pannonic loess steppic grasslands) on the highest and alkali steppes and marshes on lower elevations (1530 Pannonic salt steppes and salt marshes). Due to the continental forest-steppe climate, during our excursion in autumn, hopefully we will be able to see many flowering grassland specialist plants typical to open alkali mud surfaces (*Heliotropium*

supinum), alkali steppes (*Limonium gmelinii* subsp. *hungaricum* and *Prospero paratethycum*) and loess steppes (*Sternbergia colchiciflora*). During the excursion we will also visit the White Lake ('Fehér-tó') in Kardoskút, which is one of the most beautiful white-water alkaline lakes of the Great Plain. In the basin of the lake, we can walk through the stands of *Suaeda pannonica*, *Puccinellia distans* subsp. *limosa* and *Tripolium pannonicum*. The mid-conference excursion will be guided by the excellent botanists Ábel Molnár and Judit Kapocsi.

After the mid-conference excursion, we will organise the Grassland Party at the Conference Venue. We serve traditional Hungarian delicacies and introduce some parts of the Hungarian folk art to the participants. We will also continue the nice tradition of the Grassland Auction: we ask participants to bring some grassland-related items from their home countries, and we organise an auction from these items.

Post Conference Excursion

After the conference, we organize a three-day-long post-conference excursion to explore the natural beauties and conservation challenges of the grasslands in the [Kiskunság National Park](#).

During the excursion, we explore a wide range of grassland habitats:

- alkaline grasslands with flowering *Limonium gmelinii* subsp. *hungaricum*, *Tripolium pannonicum*, and *Prospero paratethycum*
- sandy forest steppe, habitat of the strictly protected *Dianthus diutinus* and several other rare species
- spontaneously recovered dry and wet grasslands on former sand mines, with several rare species such as *Cyperus pannonicus*, *Blackstonia perfoliata* subsp. *serotina*, and *Suaeda pannonica*
- loess grasslands with large stands of *Colchicum arenarium*
- moving sand dunes - the Hungarian 'desert'
- long term rainfall exclusion experiment in the Kiskun LTER site of the Centre for Ecological Research
- well preserved large stands of lowland sandy forest, and species-rich meadow steppes in the Peszér-Adacs area
- a large alkali steppe with impressive geomorphology in Mikla puszta
- birdwatching, with a good chance to see Eurasian Cranes, migrating waterfowl, Great Bustards and several other bird species

Technical information

The excursion departs from Szarvas on 29th September, early in the morning, and we finish at the railway station at Kecskemét railway on the afternoon of 1st October. From Kecskemét, there is a direct train connection to Budapest Airport. For those departing on Monday, we recommend booking an accommodation in Kecskemét for Sunday night as it is a very nice city worth exploring.

This is an all-inclusive excursion: the fee includes transportation by bus, all meals, accommodation and a wine-tasting event. The maximum number of participants is limited to 40 persons (to match the capacity of the bus and the available accommodation).

In case of any questions related to the post-conference excursion, you can contact the local organizers (organizers.egc2023@gmail.com) and/or András Kelemen (kelemen.andras12@gmail.com), the chief organizer of the excursion.

Financial support

Thanks to the IAVS, we can support a number of participants with travel grants. Travel grants will be awarded according to the IAVS criteria, based on income level and country of origin. They will preferentially be given to early-career and other financially constrained scientists. The support usually covers only part of the participant's costs, according to the number of successful applications.



Alkali and loess grasslands of the Körös-Maros National Park. Photos: Á. Molnár.

Eligibility and requirements:

The applicants should be IAVS members. To qualify for a travel grant, active participation at the conference (oral presentation or poster) is required. Only the presenter of the contribution will be supported so each applicant should apply with a separate talk or poster and she/he will be the presenter. After the conference, grantees must provide a short report of the event, and some photos that can be used in *Palaeartic Grasslands*. Travel grants can be applied for during online registration, including a short motivation letter. Information about the results of the travel grant applications will be given at the latest by 30th July.

IAVS support for Ukrainian scientists

On top of the travel grants, participation by Ukrainian IAVS members is completely free (no conference fee) - the respective fees are directly paid by IAVS to the local organising committee. Additionally, Ukrainian participants can apply for travel grants to cover the costs of their journey.

Young investigator prize

As in previous years, prizes will be awarded to young scientists for excellent presentation of their research (orally or in poster form). For these purposes, early career scientists (less than 35-year-old) will be asked during registration if they wish to participate in the contest. An applicant can apply for one category (best talk or poster) in one conference. During her/his presentation, the applicant needs to explain clearly her/his contribution to the work.

Organisers

Seed Ecology Research Group, Centre for Ecological Research

Körös-Maros National Park Directorate

Local Organising Committee

Balázs Deák, Orsolya Valkó, András Kelemen, Judit Kapocsi, Rita Engel, Réka Fekete, Laura Godó, Orsolya Kiss, Réka Kiss, Eszter Korom, Katalin Lukács.

Contact

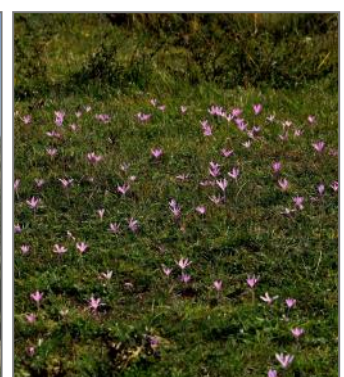
Do you have any questions? Please don't hesitate to contact the conference organizers about any details, we are happy to help!

Our email address is: organizers.egc2023@gmail.com.

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Open landscapes and grassland species of the Kiskunság National Park. Photos: A. Kelemen.

EDGG Event

Call to host future EDGG Field Workshops

EDGG Field Workshops (research expeditions) are one of the prominent annual activities of the EDGG. Since 2009, 17 such expeditions have been held in different countries of Europe and Asia (see the list of the [previous Field Workshops](#)). The last of them, the 17th Field Workshop in South Tyrol, Italy, has just fruitfully finished about a month ago. The aim of these expeditions is to sample high-quality data of Palaeartic grasslands and other open habitats following the EDGG standardized methodology (Dengler et al. 2016). There are two types of vegetation plots for sampling: EDGG biodiversity plots (nested plot series from 1 cm² to 100 m² or, when possible, to 1000 m²) and 'normal' 10 m² plots. In general, all terricolous vascular plants, bryophytes and lichens are recorded in the plot. Additionally, sporadically we also sample other taxa: spiders, orthopterans, leafhoppers, butterflies, fungus gnats (Filibeck et al. 2018; Polchaninova et al. 2018; Aleksanyan et al. 2020; Magnes et al. 2020; Moysiyenko et al. 2022).

Past Field Workshops already resulted in numerous scientific publications, devoted to the questions of biodiversity patterns, syntaxonomical issues, floristic findings, etc. (e.g., Kuzemko et al. 2016; Polyakova et al. 2016; Magnes et al. 2020; Dembicz et al. 2021a; García-Mijangos et al. 2021; Bergauer et al. 2022). Apart from joint regional studies by the participants, the EDGG Field Workshop data are also fed into EDGG's GrassPlot database (Dengler et al. 2018) and

the [GrassPlot Diversity Explorer](#), and thus result in pan-Palaeartic synthesis studies (Dengler et al. 2020; Biurrun et al. 2021; Dembicz et al. 2021b, 2021c; Zhang et al. 2021; Ulrich et al. 2022).

As a consequence of the COVID-19 pandemic and the Russian invasion in Ukraine, our medium-term plans for Field Workshops have been severely disturbed. As the newly elected Field Workshop Organizers, we thus would like to compile such plans again. Currently, we are planning the main Field Workshop in June 2024 (dry grasslands of the inneralpine valleys of the SW Alps, to be announced in the next issue of *Palaeartic Grasslands*), but we are seeking potential venues and organizers for such events in the following years. While in the past the majority of Field Workshops were devoted to dry grasslands (*Festuco-Brometea*, *Koelerio-Coryneporetea*, *Sedo-Scleranthetea*), we would appreciate to cover also other types of grasslands and non-forest habitats in the future, such as mesic and wet grasslands, coastal habitats, alpine habitats, heathlands/garrigues or mires/wetlands. Regular Field Workshops typically last 8–10 days and comprise about 18 people (participants and organizers), i.e. two micro-buses. However, if the demand for Field Workshops remains as high as currently, we could also imagine having one smaller-scale ad hoc Field Workshop per year in addition to the "regular" one.



Sampling of a snowbed community during the 16th EDGG Field Workshop above the Great Aletsch Glacier, Switzerland. Photo: D. Borovyk.

If you have an idea of a Field Workshop topic and venue for the forthcoming years and could imagine organizing or co-organizing it, please get into contact with us responsible chairs to discuss options and details.

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EDGG Event

Would you like to organize the Eurasian Grassland Conference 2025?

The 18th EGC, to be held in Szarvas, Hungary, is rapidly approaching, and we hope to be able to announce the venue of the 19th EGC, to be held in 2024, at this year's conference. After several years of uncertainty due to Covid, we are returning to the normal situation, in which the annual EGCs give members the opportunity to visit grasslands from diverse parts of the Palaeartic Region, and communicate with colleagues about grassland conservation and research. If you work with grasslands in a region that you think could be interesting for EDGG members, and have the possibility to organize such an event in 2025 or even in following years, then please don't hesitate to contact us to discuss the matter further. It would be great if we could have some

announcements of possible venues for future EGCs to present at this year's General Assembly. No binding commitment is necessary at this early stage and I will be happy to provide information on the organizational support that we can provide. You are also welcome to approach any of the EC chairs, either via e-mail or if you have the opportunity to talk with us at forthcoming events, for instance.

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Onobrychis arenaria subsp. *taurerica* in a grassland near Virgen, Osttirol, Austria. Photo: M. Janišová.

Ravine-gully landscapes of Kharkiv Region (Ukraine) as loci of meadow steppes biodiversity

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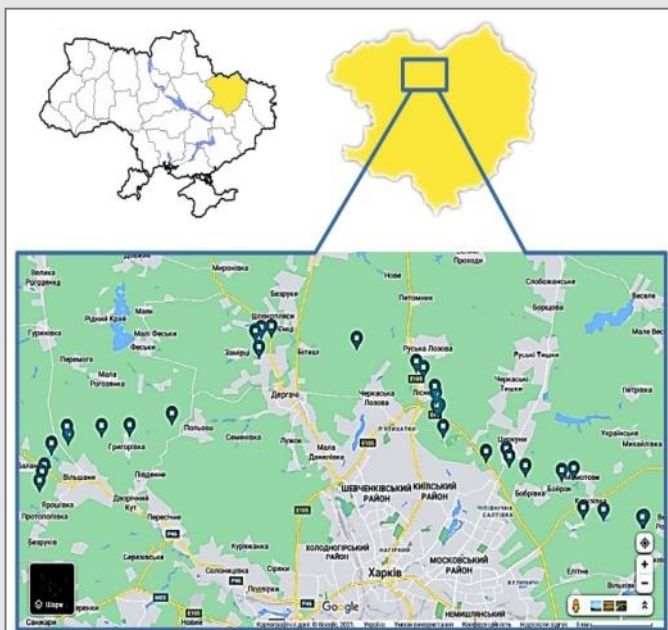
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Catastrophic losses of Eurasian steppe grassland vegetation, especially in Ukraine, create a special urgency for the preservation of even small remaining areas of steppe vegetation due to their pivotal importance. For the territory of Ukraine, steppes are not only a natural biome, but also a significant part of its history. They are associated with the development of culture, life, and worldview of the freedom-loving Ukrainian people and their identity. At the beginning of the current era, the steppe biome occupied more than one-third of the area of present-day Ukraine (about 40% of its territory) but today, the area of the steppes has decreased by more than 50 times (to less than 1%). Therefore, the fate of the steppe landscapes can be considered truly tragic, so that these ecosystems and their biodiversity need special protection.



Oksana Tyshchenko collecting plant specimens.
Photo: V. Tyshchenko.



The location of reference points in the studied area.



Oksana Tyshchenko during an assessment of the floristic composition of the vegetation cover at the observation points. Photos: V. Tyshchenko.

Our expeditionary research began in September-October 2021 under a contractual agreement with LLC Science Center "Ecology" as part of the environmental impact assessment procedure. The purpose of our work was to assess the biodiversity and analyze the potential impact on the Emerald network sites in the Kharkiv region resulting from the planned construction of a new 330 kV high-voltage power line with a total length of 62 km. The overhead power line was planned to pass through the regional landscape park "Feldman Ecopark" and two sites of the Emerald Network (Tsyrukunivskyi forest (UA0000290) and Upper part of Uda river valley (UA0000292)), as well as near four local nature conservation sites and three other Emerald Network sites (UA0000283, UA0000287, and UA0000294).

The territory of our study is located in the forest-steppe zone and is characterized by a diverse range of landscapes. Geomorphologically, it belongs to the southern part of the Central Russian Upland, which is a plain with a well-developed network of ravines, gullies, and valleys of the Murom, Kharkiv, Lozovenka, Lopan, and Uda rivers. These types of dry gullies or steep-sided ravines, known as balkas in Ukraine, are typically found in the steppe regions of Ukraine and other Eastern European countries. The hydrographic network of the research area belongs to the Siverskyi Dnests river basin. Elevation ranges from 105.1 to 216.7 m.



Volodymyr Tyshchenko, faunistic research of meadow steppe fragments in the upper reaches of the ravine to the north of Sorokivka village. Photo: O. Tyshchenko.



Igor Davydenko during research on bird migration routes. Photo: V. Tyshchenko.



Volodymyr Tyshchenko registers signs of mammal activity - *Spalax microphthalmus* mounds. Photo: I. Davydenko.



Oleksandr Govorun during research on the diversity of entomofauna. Photos: V. Tyshchenko.



Volodymyr Tyshchenko and Oleksandr Govorun are conducting ultrasonic bat recording and collecting insects attracted to light during nighttime. Photos: I. Davydenko.



Oleksandr Govorun catches insects using light as one of the methods to study the diversity of invertebrates. Photos: V. Tyshchenko.

In the fall of 2021, the vast majority of the study area was occupied by agricultural lands interspersed with forest protective strips, and to a lesser extent, by deciduous forests and ravine-gully landscapes, where meadow steppe vegetation was still preserved. A fairly large part of the territories adjacent to the city of Kharkiv were used for spontaneous recreation, construction, and other economic needs. However, due to the rugged topography and dense thickets of woody, shrubby, and herbaceous plants, a certain part of them has remained relatively well-preserved, close to their natural state.

Meadow-steppe vegetation in the Kharkiv region has been almost completely plowed and now exhibits "island distribution". Steppes are located diffusely and remain only in small patches, mostly on "non-farm" lands, and are represented by gullies and ravines, as well as in a number of protected territories and in the Emerald network of areas of special conservation interest.



Fallow lands and hay meadows of the reference site located near the road from Shovkoplasy village to Dergachi town. Photo: V. Tyshchenko.



The edge of the forested area adjoining the ravine with fallows, which are gradually becoming overgrown. Photo: V. Tyshchenko.



Fragment of the northern slope of the ravine west of the Vilshany village. Photo: V. Tyshchenko.



A fallow overgrown with *Fraxinus excelsior*, *Ulmus glabra*, *Acer negundo*, *Elymus repens*, *Calamagrostis epigejos*, *Solidago canadensis*, and other species. Photo: V. Tyshchenko.



A fragment of a transformed area of steppe vegetation in the ravine to the west of the Vilshany village. Photo: V. Tyshchenko.



Fallow, vegetation restoration of steppe meadows. Photo: V. Tyshchenko.



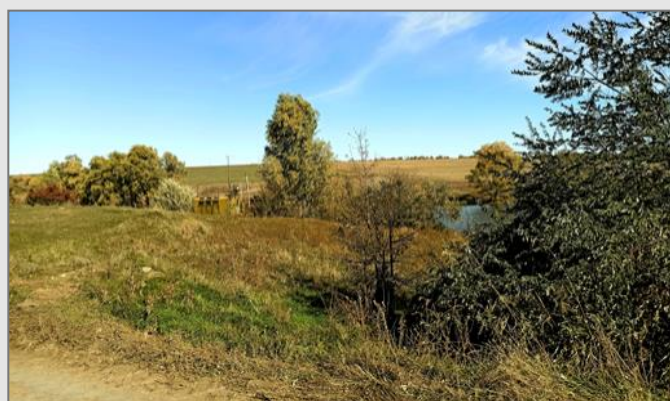
General view of the southern slope of the ravine to the west of the Vylshany village. Photo: V. Tyshchenko.



Mesophytic plant communities of the bottom of the ravine to the west of the Vylshany village. Photo: O. Tyshchenko.



Pastures and fallows in the bottom of a steppe ravine on the outskirts of Zinkivske village. Photos: V. Tyshchenko.



Meadow and wetland ecotopes of the area on the dam between the ponds northwest of the outskirts of Vylshany village. Photo: V. Tyshchenko.



Bottom of a steppe ravine to the west of Hryhorivka village. Photo: V. Tyshchenko.



Overgrown fallow land between the E40 highway and the Kharkiv river, located to the north of the Velyka Danylivka district in Kharkiv city. Time for evening faunistic research. Photo: V. Tyshchenko.



Slopes of a steppe ravine to the west of Hryhorivka village, time for evening faunistic research. Photo: V. Tyshchenko.

During our research, we established 30 observation reference points and a network of transects to cover the full range of landscapes in the studied area. The biodiversity of the area was studied through field and camera botanical and zoological research during daytime and night-time. Analysis of the species composition of plant cover was conducted with collection of herbarium specimens, photography, and processing of the collected data. Studies of the mammal, amphibian, and reptile fauna were carried out along the recording transects, including recording of animal activity traces (footprints, excrements, mounds, gnawings, burrows, and other shelters). A study of the species composition and number of

bats was carried out by acoustic-visual recording of animals at recording points and transects (on foot and from moving vehicles). The recording was conducted using an ultrasonic bat detector and a voice recorder with further processing of audio materials using special software. The study of bird fauna was carried out by visual and audio identification. The invertebrate fauna was studied by collecting insects on the surface of plants and soil, catching them with an entomological net, light trapping at night, and by manual methods in places where imagoes stay during the day (plants, trunks, stumps).



A fallow area on the left bank of the Uda River, to the north of Hryhorivka village. Photo: V. Tyshchenko.



Hayfield area on the dam above the pond in the floodplain of the Nemyshlia River, to the south of Kutuzivka village. Photo: V. Tyshchenko.



Meadow steppe fragments in the upper reaches of the ravine to the north of Sorokivka village. Photos: V. Tyshchenko & O. Tyshchenko.



Green strawberry (*Fragaria viridis*), field eryngo (*Eryngium campestre*) and meadow clover (*Trifolium pratense*) as components of the ravine vegetation cover. Photos: O. Tyshchenko.

Most of the revealed species diversity was associated with meadow steppe vegetation at different stages of demutation. This type of vegetation was recorded in several ravines located mostly between agricultural lands in different parts of the Kharkiv district (north of Kharkiv) with a total area of about 200 hectares. In particular, such fragments of steppes were located on the slopes and at the bottom or upper zone of the ravines to the west of Vilshany, Hryhorivka, and Poljova villages, to the north of Sorokivka and Lisne villages, and to the south of Zinkivske village. The restoration of meadow-steppe grasslands in these areas is evident by the presence of sozophytes of national and regional importance, such as *Stipa capillata* L., *S. lessingiana* Trin. & Rupr., *Clematis integrifolia* L., *Asparagus officinalis* subsp. *polyphyllus* (Steven) Tzvelev, *Hypericum elegans* Steph. ex Willd., and common representatives of meadow-steppe vegetation communities, including *Caragana frutex* (L.) K. Koch, *Chamaecytisus lindemanii* (V.I. Krecz.) Klask., *Prunus spinosa* L., *Elytrigia intermedia* (Host) Nevski, *Koeleria macrantha* (Ledeb.) Schult., *Festuca valesiaca* Schleich. ex Gaudin, *Artemisia austriaca* Jacq., *Phlomis tuberosa* L., *Galatella villosa* (L.) Rchb.f., *G. linosyris* (L.) Rchb.f., *G. biflora* (L.) Nees, *Eryngium campestre* L., *Falcaria vulgaris* Bernh., *Marrubium peregrinum* L., *Origanum vulgare* L., *Salvia pratensis* L., *S. verticillata* L., *Asparagus officinalis* L., *Medicago falcata* L., *Securigera varia* (L.) Lassen, *Silene nutans* L., *Euphorbia stepposa* Zoz ex Prokh., *Vincetoxicum hirsundinaria* Medik., *Centaurea pseudocoriacea* Dobroc., *C. pseudo-maculosa* Dobroc., *C. scabiosa* L., *Achillea pannonica* Scheele, *A. nobilis* L., *Allium sphaerocephalon* L., *Lavatera thuringiaca* L., *Thymus marschallianus* Willd., etc.



Stipa capillata, *Phlomis tuberosa*, *Caragana frutex*, *Euphorbia stepposa* and *Asparagus officinalis* subsp. *polyphyllus* - the components of the meadow-steppe communities of the ravine to the north of Sorokivka village.

Photos: O. Tyshchenko.



The ponds are the habitats of aquatic and wetland birds.
Photo: V. Tyshchenko.

Blackthorn (*Prunus spinosa*), agrimony (*Agrimonia eupatoria*), wood small-reed (*Calamagrostis epigejos*), and solitary clematis (*Clematis integrifolia*) - the components of the meadow-steppe communities of the ravine to the north of Hryhorivka village. Photos: O. Tyshchenko.

As a result of our research, the following animal species diversity was recorded on the study area: 54 species of insects belonging to nine orders and 27 families; 39 species of birds belonging to eight orders and 23 families, of which 35 species have conservation status; 11 species of amphibians belonging to two orders and six families, all with conservation status; 29 species of fishes belonging to six orders and 12 families, of which seven species have conservation status; 43 species of mammals belonging to six orders and 15 families, of which 29 species have conservation status, including the recorded activity of seven species of bats, all with conservation status.

Since the planned construction of a new overhead power line could have a direct and indirect impact on the biodiversity of the region, during the study we prepared recommendations for minimizing the negative impact on rare species, communities, and their habitats. In particular, the laying of the overhead power lines could be carried out with the use of only minimally invasive technologies, or completely avoiding interventions in the relatively undisturbed areas of native steppes.



The floodplain of the Uda River is a sanctuary for waterfowl and wetland birds. Photo: I. Davydenko.



The ravine to the north of the Sorokivka village with areas of natural steppe vegetation. Photo: I. Davydenko.



European badger's (*Meles meles*) burrow in the bottom of a steppe ravine near Hryhorivka village. Photo: V. Tyshchenko.



A group of pheasants (*Phasianus colchicus*) in the territory of the ravine. Photo: V. Tyshchenko.

A developed complex of biotechnical measures is aimed at minimizing the number of dangerous contacts of animal species with electrical equipment.

Unfortunately, the continuation of our research, which was supposed to cover the beginning and middle of the next growing season, has become impossible due to the outbreak of a full-scale war

in Ukraine initiated by Russian aggression. The studied territory was under occupation, and it suffered military interventions and destruction. The consequences of these interventions on the natural meadow-steppe habitats currently require a detailed assessment.



Phasianus colchicus male and female in the ravine to the north of Lisne village. Photo: I. Davydenko.



Phasianus colchicus male in the ravine to the north of Lisne village. Photo: I. Davydenko.



Cignus olor in the water bodies to the west of Vilshany village. Photo: I. Davydenko.



Flock of *Perdix perdix* in the ravine to the west of the Vilshany village. Photo: I. Davydenko.



Buteo buteo over the ravine to the north of the Lisne village. Photo: I. Davydenko.

Thus, our preliminary data indicate that the greatest biodiversity of the studied region is associated with the identified meadow-steppe vegetation located in ravine-gully landscapes, despite their small number and dispersion between agricultural lands.

The catastrophic situation of the rapid loss of steppe grasslands in Ukraine, caused by anthropogenic activities, calls for concerted efforts towards sustainable use, environmental management, preservation of even small areas of zonal steppe vegetation as refuges of steppe biodiversity and the exploration of new directions for the restoration of steppe vegetation.



Lanius excubitor, a species from the Red Book of Ukraine. Photo: I. Davydenko.



Corvus corax to the east of the Bilashi village. Photo: I. Davydenko.



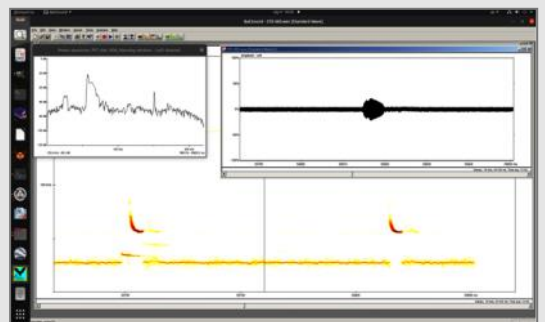
Spalax microphthalmus mounds in a hayfield. Photo: V. Tyshchenko.



Lucilla sericata on *Prunus spinosa* fruit. Photo: I. Davydenko.



Coenonympha pamphilus. Photo: I. Davydenko.



Computer decryption of ultrasonic signals of the pipistrelle bat (*Pipistrellus pygmaeus*). Photo: V. Tyshchenko.

Short Contribution

A long-term demographic study of *Salvia nemorosa* L. to determine the effects of landscape structure on the mechanisms of population persistence

The objective of this long-term demographic study (LTDS) is to examine the effects of landscape structure and local habitat conditions on the persistence of plant populations in remnant dry grassland fragments. Land use changes such as the shift to intensive agriculture have dramatically reduced the amount and connectivity of dry grasslands (Millennium Ecosystem Assessment 2005). In these transformed landscapes, dry grassland specialist species have often persisted in small habitat fragments, for example on kurgans, ancient burial mounds of Eurasia (Deák et al. 2021).

Community-level responses to increasing isolation and small habitat area suggest unpaid extinction debt of grassland specialist plants on kurgans of Hungary (Deák et al. 2021). Our study focuses on the demographic mechanisms of persistence in a model species, *Salvia nemorosa* L., for which field observations of a large number of individuals and populations are required. This is a call to join the study and contribute data on single or multiple populations of *S. nemorosa* from kurgans across the species' whole geographic area of distribution.

The study design is based on a modified data collection protocol of PlantPopNet (Buckley et al. 2019), and we have already been collecting data between 2021-2022, on 12 kurgans and two reference flat sites in the Great Hungarian Plain. The study is conducted preferentially on kurgans for several reasons: 1) kurgans are small natural features of various sizes and with different degrees of isolation that make possible the study of landscape structure on population persistence; 2) kurgans have high microhabitat heterogeneity, making possible the study of sub-populations under contrasting niche positions within the same locality; 3) kurgans benefit from pre-existing biodiversity studies that facilitate site selection and access logistics; 4) kurgans are ex-legate protected landscape elements in Hungary since 1997, which reduces the chance of anthropogenic destruction and modification of vegetation structure (Deák et al. 2021). The choice of our model species relies on the following considerations: 1) *S. nemorosa* is a dry grassland specialist typical of loess grasslands; 2) The species is not protected, and it has surviving populations of varying size on a sufficient number of kurgans and under different microhabitat conditions within a kurgan; 3) The plant can be easily identified, tagged and measured, and it has a relatively simple life cycle.

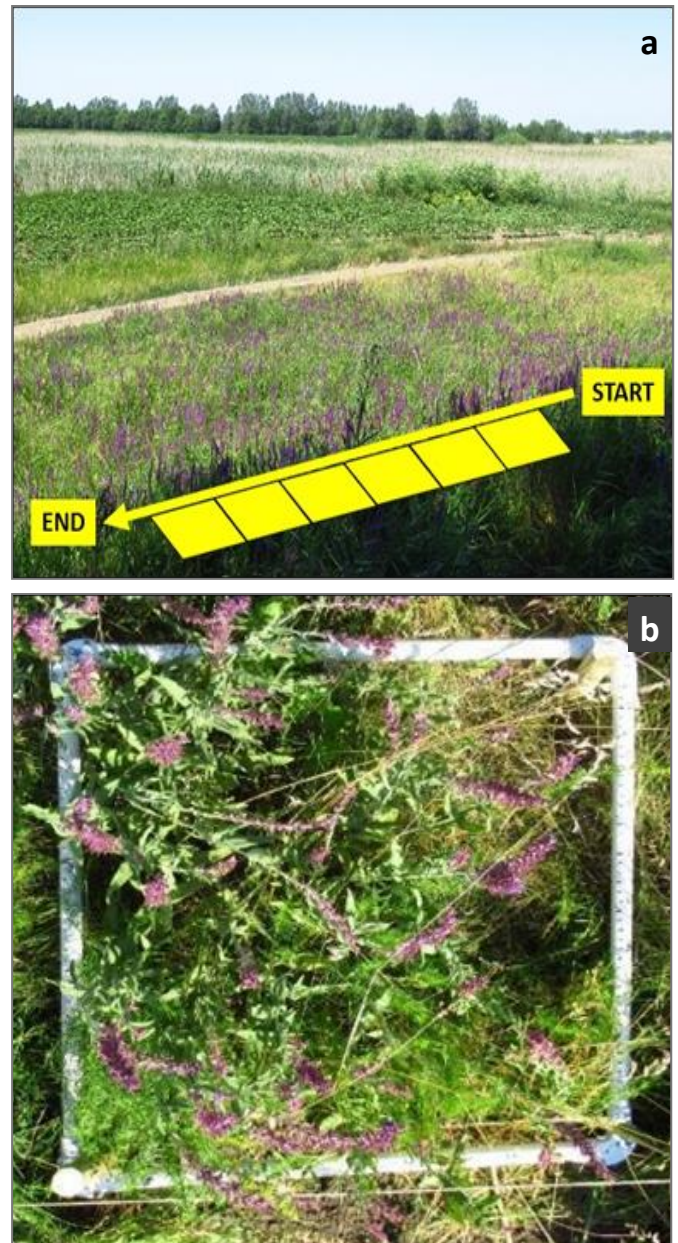


Fig. 1. a) Graphical illustration of an established transect and plots on a kurgan; b) A 0.25 m² plot frame made of narrow PVC tubes with round corners that aids the demographic census of *S. nemorosa*.

As with all LTDS, the time required to set up a permanent site in the first year and undertake the annual census is two days on average. Ideally, we aim for a minimum of two years of data collection at a site, in order to generate a basic demographic model, while data from more years will be used to examine temporal variation in dynamics and trait values (as in Buckley et al. 2019). Data collection is timed for peak flowering of *S. nemorosa*, which in the Great Hungarian Plain is mid-May to early July. Data are collected along one or several transects made of multiple contiguous 0.5 m × 0.5 m, permanently marked plots (Figs. 1a, b). We record transect-level environmental variables (e.g., aspect, slope angle) and plot-level community and environmental variables (e.g., vegetation cover, *S. nemorosa* cover). We permanently mark each plant with a numbered linoleum tag. The goal is to reach 100 plants within a site, but if the population is small, we aim to mark as many individuals as possible (minimum 30 individuals). This way we can follow the demographic fates (survival, change in size and sexual reproduction) of all marked individuals and any new individuals (recruitment) each year. Additional sampling is performed outside the permanent plots to accurately estimate the number of seeds and measure the specific leaf area. Under laboratory conditions, we further investigate plant traits such as seed germination, seed weight and shape.

With this methodology, we can address the following research questions:

- What are the interactive effects of landscape structure (kurgan area and isolation) and local habitat conditions (heat load, vegetation height) on the traits and vital rates of *S. nemorosa*?
- How do shifts in plant traits caused by landscape structure and habitat conditions affect the density, abundance and demographic pathways of *S. nemorosa*?
- How do shifts in reproductive phenology caused by local habitat conditions affect the demographic performance of *S. nemorosa*?

Please send your inquiries and intention to join to the coordinator: Anna M. Csergő, Hungarian University of Agriculture and Life Sciences, csergo.anna.maria@uni-mate.hu.

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Awardee report of the EDGG Fund for Ukrainian Scientists: A grassland island lost in the sea

Having an area of 20.5 hectares, Zmiinyi Island is the most remote piece of land on the map of Ukraine and at the same time the most isolated area of steppe vegetation in the basin of the Black and Azov Seas, located 37.5 km from the Black Sea coast. Coordinates of its centroid are 45.256° N 30.205°E. The maximum height above sea level is 41.3 m, the greatest length is 682 m. It is the only island on the northwestern shelf of the Black Sea.

Taking into account the interest of scientists in the nature of the island, in 1998, by Presidential Decree, "Zmiinyi Island" was declared a zoological reserve of national significance. It included a small part of the island with an adjacent 500-meter water area of the Black Sea, which resulted in a total area of 232 hectares. And, although most of the island still remains unprotected, the decision to make Zmiinyi Island an object of nature conservation was made at the highest state level for a reason.

The isolation of the island and the long-term inviolability of its habitats created favorable conditions for the formation of unique complexes of flora and fauna, the characteristic features of which are related to the specifics of the conditions of existence in a limited space. The island is an important place for the migration of birds across the Black Sea, therefore, in the array of data, special attention is paid to avifauna, including those species discovered for the first time for the territory of Ukraine and listed in the Red Data Book of Ukraine.

With the support of the EDGG small grant, we prepared the "Biodiversity of Zmiinyi Island" dataset (properly organized according to Darwin Core standards) and published it on GBIF (<https://doi.org/10.15468/58ayxq>). We collected information about the known records of fauna and flora species for the island and its coastal water area from all available so-called "gray literature". This information will be important for further studies of the territory of the island, which will become possible after the end of the Russian-Ukrainian war. According to data published in various sources, biologists have identified 197 species of plants, 71 species of lichens, 241 species of birds, two species of reptiles, three species of amphibians and more than 300 species of invertebrates on the territory of the island [1-20]. Among the registered species, almost 70 are listed in the Red Data Book of Ukraine. In some years, up to 45% of migratory bird species of Ukraine and neighboring Eastern European countries were confirmed to rest on the island. There are 58 species of fishes (of which 12 are listed in the Red Data Book of Ukraine as well), three species of dolphins and six species of crabs. In general, including marine biodiversity, representatives of seven kingdoms (Animalia, Plantae, Fungi, Chromista, Protista, Bacteria and Protozoa), 20 phyla, 53 classes and 1400 species have been noted on the island and in the adjacent water area. (Information about the finds of all these species is included in the dataset). Most of the research on the is-

land was carried out and published by scientists of the Odessa I. I. Mechnikov National University in 2003-2007 [8]. For many years, a research station of the university operated on the territory of the island and was used for training young biologists. More than a hundred scientific works and even books have been written about the island. Some studies were conducted by other scientists in the later period, including 2020.

The most detailed information about the vegetation of Zmiinyi Island is known thanks to the geobotanical studies conducted by V. S. Tkachenko, Ya. P. Didukhom and I.A. Korotchenko in 2008-2009 [18]. These studies not only provided information about the vegetation and phytocenotic composition of the island's biota, but in addition, they substantiated important conclusions regarding the genesis of the island's vegetation.



General view of Zmiinyi Island. Source: novynarnia.com



Zmiinyi Island after combat operations in 2022. Source: novynarnia.com

Since almost the entire surface of the island is covered with stony rocks and its relief has a dome-shaped sculptural shape, the conditions for retention and accumulation of atmospheric precipitation in low-strength crushed stone soils are unfavorable. Therefore, the development of plant cover is highly dependent on atmospheric precipitation, which in the conditions of the marine environment is largely compensated by the condensation of air moisture in the soil and litter. Therefore, the vegetation is represented mainly by lichen and ephemeral mesoxerophytic savanoid communities.

Herbaceous vegetation is represented by communities of the savanoid type. The specificity of this vegetation lies in the Mediterranean rhythm of development: precipitation with a maximum in spring (April-May) and late autumn, which causes a deep and long diapause during the summer drought. In this regard, the main vegetation period takes place in spring with the flowering time of ephemerals and ephemeroids. The thickness of the soil layer contributes to the formation of communities with dominance of mesoxerophytic long-rooted crops in a complex with savannah vegetation represented by the formations of *Vulpia myuros* (L.) C.C.Gmel., *Hordeum leporinum* Link, *Anisantha tectorum* (L.) Nevski, etc. and prevalence in the vegetation cover of groups dominated by *Cynodon dactylon* (L.) Pers. The total projective coverage of herbage is on average 61.6% (45-80%), of which 50% (20-75%) is the individual coverage of the edificator species. In groups with a predominance of *Calamagrostis epigejos* Steud. and *Elytrigia repens* (L.) Nevski, completely devoid of consumer influence, a powerful layer of above-ground and underground phytomass is formed, which contributes to the accumulation of organic matter in the soil and the creation of a high fire-hazardous situation.

Among the ephemeral savanna communities, those dominated by *Anisantha tectorum* (L.) Nevski are the most widely represented, which on stony hills of different exposition with the slope of up to 20% with loose rubble and admixtures of fine soil form a low (15-25 cm), light brown from ripe and dry stems of the dominant, liquified grass without distinct litter. Until recently, the island attracted the attention of biologists only. But in 2022, the Ukrainian border military unit stationed on the island became one of the

most active sites of hostilities during the Russian-Ukrainian war. The island has become a strategic point, on which the control and deployment of air defense systems, the entire control over the northwestern part of the Black Sea depends. Within a few months, this small piece of rock with steppe vegetation managed to become a symbol of the indomitability of the Ukrainian people, victory and the return of the temporarily occupied lands to the control of Ukraine. Unfortunately, this generally optimistic side of history has a very negative environmental side. The island was repeatedly attacked by ship-based, land-based and air-based missiles.

What of this incredible biodiversity survived after the battles for the island? The answer to this question will not be available soon. Although, it is obvious that the nature of the island suffered. The population size of many species is very small in such a limited area, and therefore the species lists for many groups previously found on the island will be significantly smaller from 2022. For marine species as well as migratory fauna (birds and bird-borne groups), the damage may be much less considerable. But without a doubt, the losses will be the largest for the herbaceous groups that occupy the vast majority of the area of Zmiinyi Island. For the first time in many years, most of its area was burned, and for the first time in history, cruise missiles and other highly toxic munitions exploded on its territory.

Some representatives of the flora and lichens found on the island are under state protection. Among lichens, *Tornabea scutellifera* (With.) J.R. Laundon and from vascular plants - *Ornithogalum refractum* Kit. ex Schldl, - are included in the Red Data Book of Ukraine. Also, the decision of the Odessa Regional Council dated February 18, 2011 No. 90-UI approved the list of plants protected on the territory of the region, among which *Muscari neglectum* Ten is found on the island.

In addition to the rare fraction of the terrestrial flora of the Zmiinyi Island, which represents herbaceous biotopes, there are also rare flora representatives that inhabit the coastal waters of the island. Among them, *Stylonema alsidii* (Zanardinii) K. M. Drew. (Class Bangiophyceae, Section Rhodophyta), *Ectocarpus siliculosus* (Dillw.) Lyngb. and *Punctaria latifolia* Grev. (Class Phaeosporophyceae, Division Phaeophyta) and *Enteromorpha maotica* Pr.-Lavr. (Class Chlorophyceae, Division Chlorophyta) are listed in the Red



Missile strikes on the territory of the island using Bayraktar. Source: mil.in.ua

Data Book of Ukraine. In addition, *Cystoseira barbata* C.Ag. (Class Cyclosporophyceae, Division Phaeophyta) is listed in the Red Data Book of the Black Sea.

In our opinion, such significant damage to the nature conservation area can not remain without the attention of the state authorities of Ukraine. The simplest decision that Ukraine can take is to grant a protective status to the entire water area adjacent to the island and its entire territory. In addition, in the Odessa region, near the shores of which Zmiinyi Island is located, it is important to create new territories of the nature reserve fund, in particular in those few places where herbaceous ecosystems close to those affected on Zmiinyi Island still remain preserved.

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Awardee report of the EDGG Fund for Ukrainian Scientists: Analysis of distribution of rare plants on the protected areas of Lower Dnipro sands (Kherson and Mykolaiv regions, Ukraine)

The project was devoted to the analysis of the rare plant species distribution in territory of the protected areas in Lower Dnipro sands. Data for the study were collected by the author before the full-scale war of Russia against Ukraine. Now the entire study area is under temporary occupation. But I believe that with the help of the Ukrainian army, my Home will be free.

The Lower Dnipro sands are a unique sand massif with very peculiar vegetation. The flora of this territory is very diverse, it is represented by: forest vegetation (birch, oak, aspen and alder thickets - small hyperxerothermic island forest massifs in a complex with meadow, swamp and aquatic vegetation), floodplain-meadow vegetation, shrub thickets, mesic and semi-dry grasslands, halophilous, swamp, aquatic and synanthropic vegetation.

The study area is a sandy arena on the terrace of Dnipro River (Kherson and Mykolaiv regions). It is located in the southwest of the Eastern European Plain. The riverine arenas of the Dnipro River (Kakhovska, Kozache-Lagerska, Oleshkivska, Zburiyivska, Ivanivska, Chalbaska and Kinburnska) are located on the territory of two botanical and geo-

graphical regions: the Lower Dnipro floodplain and the Oleshky Sands, which belong to the Lower Dnipro dry-steppe region and located in the Black Sea-Azov dry-steppe province. According to the geobotanical zoning of Ukraine, this territory belongs to the Lower Dnipro district of sandy steppes, sands and flood plains.

Localities of 83 rare plants species were revealed in the study area belonging to different protection categories: 42 species are listed in the Red List of the Kherson Region (RLKR); 5 – in the Red List of the Mykolaiv Region; 35 species are included into the Red Data Book of Ukraine; 10 species – to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); 6 species are included to the Resolution 6 of the Bern Convention on the Protection of Wild Flora and Fauna and Natural Habitats in Europe; 2 species are included in the IUCN red list; 1 species is protected according to the European Red List. There are 30 protected areas in the Lower Dnipro sands region. 28 of them are situated in the Kherson region (33.7% of all protected areas in the region) and 2 are situated in Mykolaiv region (1.4%): 1 biosphere reserve (partly), 3 National Nature Parks (2 of



Psamphytic steppe on territory of the regional landscape Kinburn spit Park. Photo: M. Zakharova.

them partly), 1 Regional Landscape Park, 5 local protected areas, 4 protected tracts, 14 natural monuments, 2 parks-monuments of ornamental gardening. Among them 7 objects are of national significance and 23 are of local importance.

The data of my scientific research proof the existence of rare species of plants on territory of the Lower Dnipro sands before start of hostilities and occupation of part of the territory of the Kherson and Mykolaiv regions by Russia - the aggressor country. If, after liberation of the above-mentioned territories, it turns out that rare species have

been destroyed, then Ukraine has every right to file a lawsuit in the international court for compensation damages.

Currently, as a result of Russia armed aggression against Ukraine, the entire study area is temporarily occupied and has undergone great damage and transformation. But I believe that soon our nature and land will be freed from the invaders and will be restored.

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Shifting coastal dunes with *Eryngium maritimum* in the regional landscape Kinburn spit Park. Photo: M. Zakharova.



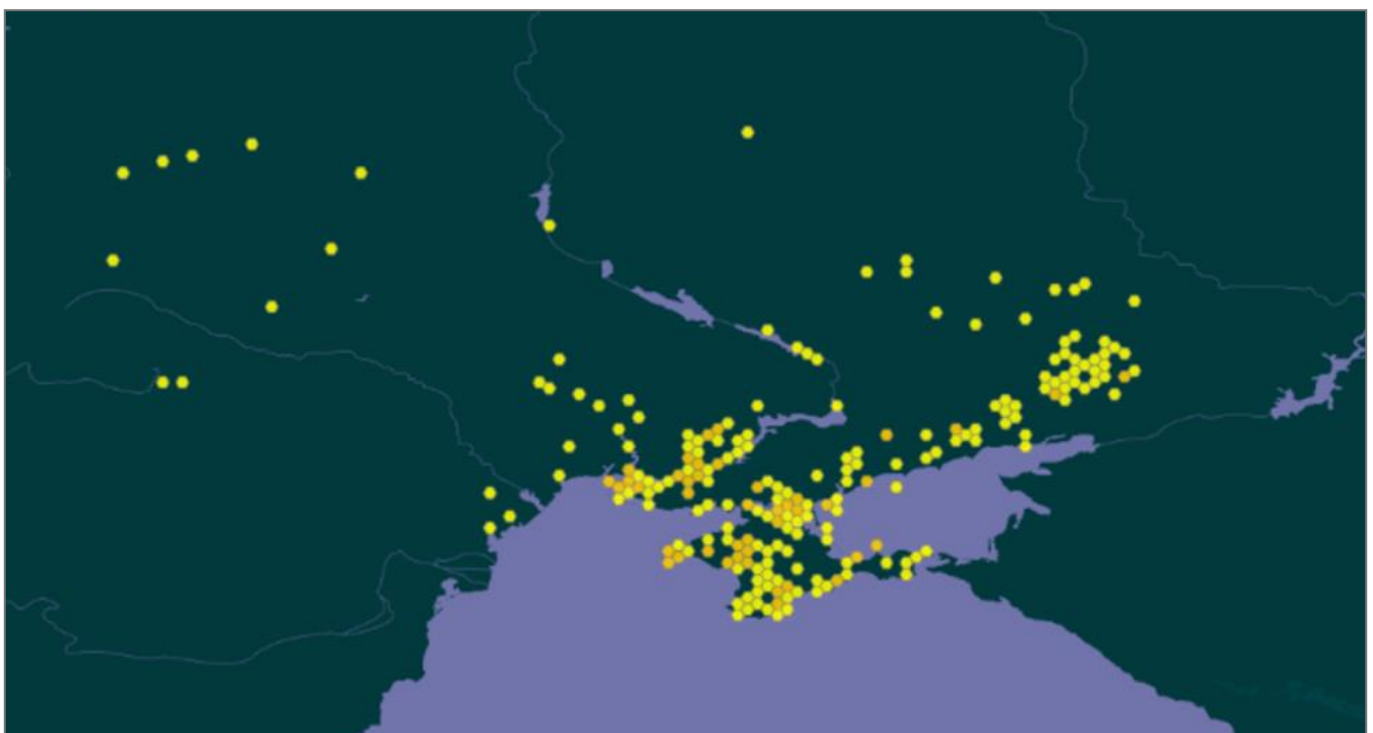
Desert steppes (left) and inland sand dunes (right) of the national nature park of Oleshkivski sands. Photo: M. Zakharova.

Awardee report of the EDGG Fund for Ukrainian Scientists: Dataset for threatened terricolous lichens with arid ecology from Ukraine

More than 10 years ago, the Ukrainian lichenological group began to research the distribution of lichens with arid ecology (Nadyeina et al. 2010). However, main part of the material as locations, critically studied herbarium specimens and human observations have not been published. Recently we obtained new information on distribution of threatened lichen species from Ukraine. The draft excel table prepared by Olga Nadyeina in far 2009 was the point from our start position for completing of the dataset. The Eurasian Dry Grassland Group small grant program are stimulated us for finish of this work.

The dataset (Nadyeina et al. 2023) included 852 terricolous lichen observations from different editions of Red data book of Ukraine (Блюм, 1996, 2009а,б,в,г,д,е; Ходосовцев, 2009а,б,в) and the new Red Data List of Ukraine (Перелік, 2021). The list contains *Xanthoparmelia pokornyi*, *X. subdiffluens*, *X. desertorum* that are not included in Red Data Books, however these species confuse with *X. camtschadales* and *X. ryssolea* from the Red Data Book of Ukraine. Thus, treathened lichens are single or complex taxa: *Agres-tia zerovii*, *Circinaria hispida*, *Circinaria affinis*, *Circinaria fruticulosa*, *Circinaria gyrosa*, *Cetraria aculeata* (incl. *Cetraria aculeata* subsp. *steppae*), *Fulgensia desertorum*, *Psora decipiens*, *Scythinium schraderi*, *Seiophora lacunosa*, *Squa-*

marina lentigera, *Xanthoparmelia ryssolea* complex (incl. *Xanthoparmelia ryssolea* and *Xanthoparmelia pokornyi*), *Xanthoparmelia camtschadalis* complex (incl. *Xanthoparmelia camtschadales*, *Xanthoparmelia desertorum*, *Xanthoparmelia subdiffluens*). We are critically studied herbarium specimens and literary sources. For example, we support new data on *Cetraria steppae* as cryptic subspecies within *Cetraria aculeata* (Lutzak et al. 2020) since Both taxa, *C. aculeata* subsp. *aculeata* and *C. aculeata* subsp. *steppae* haven't morphological, chemical, geographical and ecological differentiation. *Cetraria aculeata* has 300 location in Ukraine and, in our opinion, has status LC - Least Concern. Thus, the species must be excluded from the Red Data Book of Ukraine (Перелік 2021). Also, we are not support the wide concept of *Xanthoparmelia ryssolea* (Kondratyuk, Oxner, 1993в) and restricted distribution of the *X. ryssolea* (= *Xanthoparmelia taurica*) by arid regions of the Crimean Peninsula. Specimens and literature records from other regions of Ukraine under name '*Xanthoparmelia ryssolea*' were identify by us as *Xanthoparmelia pokornyi* follow Esslinger (1977). The last species is protected in the Kherson and Mykolaiv regions. We are include few localities of *Xanthoparmelia desertorum* and *X. subdiffluens*, which often confuse with *Xanthoparmelia camtschadales*, to dataset.



The distribution of the threatened terricolous lichens with arid ecology in Ukraine (Nadyeina et al. 2023).

Taxonomical status of these species need to be checked by DNA analyses.

In general, the geography of the dataset covers southern regions of Ukraine Dnipropetrovska, Donetsk, Khersonska, Kirovogradska, Luganska, Mykolaivska, Odeska, Poltavska, Zaporizka oblasts and Autonomic Republic of Crimea, but some records of the *Cetraria aculeata* are obtained from Ivano-Frankivska, Kharkivska, Khmelytska, Kyivska, Lvivska, Rivnenska, Sumska, Ternopilska, Volynska, Zakarpats'ka Oblasts.

Mainly, localities of the threatened lichen species are now temporary occupied by the russian aggressor. In addition, numerous old herbarium specimens of lichens with labels of non-exist settlements in the south of Ukraine dating up to 1932 are digitized. In most cases, specimens with these label year and name of Crimean Tatar settlements in plain Crimea were not included in the fundamental volumes of the "Lichen Flora of Ukraine" (Охнер 1968, Кондратюк & Окснер 1993а,б,в; Окснер & Ромс 1993). Probably because this year marks the beginning of the Holodomor in Ukraine and the genocide of the Ukrainian people by the communist regime. The oldest literature record is *Squamarina lentigera* (Leveille 1842). The oldest herbarium specimens is *Cetraria aculeata* collected by J. Pachosky 23 October 1921 (KHEM). The Dataset contains the last observation of *Cetraria aculeata* by A. Khodosovtsev from the 'Kamianska Sich' National Nature Park on February 22, 2022, 36 hours before the russian invasion to Ukraine (Nadyeina et al. 2023).

We hope, after liberation of Ukraine from russian aggressor we'll check all localities of the threatened terricolous species of lichens that have concentration in Autonomic Republic of Crimea, Donetsk, Kherson, Lugansk, Mykolaiv and Zaporizhzhia regions.

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Herbarium specimens of *Xanthoparmelia pokornyi* (left) from Oleshky sand dunes (Kherson region) and *X. ryszsolea* (right) from Tarkhankut Peninsula (AR Crimea).



Xanthoparmelia desertorum, AR Crimea, Tarkhankut Peninsula. Photo: A. Khodosovtsev.



Circinaria hispida, AR Crimea, Tarkhankut Peninsula. Photo: A. Khodosovtsev.

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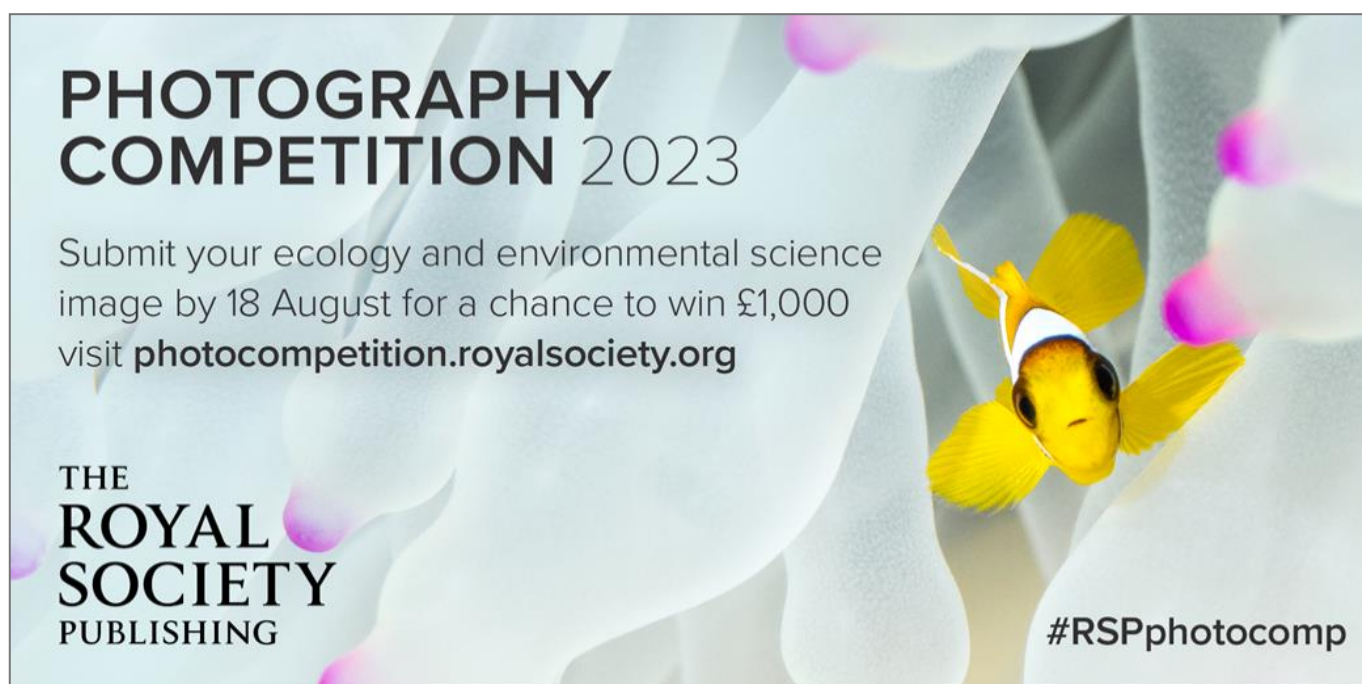
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Many thanks for your help in circulating this as widely as possible to your community and I look forward to hearing from you.

Felicity Davie, London, felicity.davie@royalsociety.org



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Invitation to participate in book project “Molecular Dynamics of Plant Stress and its Management”

Members of EDGG are invited to participate in a project to produce a book on the topic of: "Molecular Dynamics of Plant Stress and its Management", with the following sub-themes:

- Plant biotic stress
- Plant abiotic stress
- Plant stress management.

The book will be published by Springer.

If you are interested to contribute, then please contact the coordinator of the project, Dr. Muhammad Shahid (Sultan Qaboos University, Oman) at this address: shafiqinayat@gmail.com

Stephen Venn, University of Łódź, Poland
stephen.venn@biol.uni.lodz.pl

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 Eurasia and to improve their accessibility. You are invited to send lists of such papers from the last three years following the format below to Rocco Labadessa, rocco.labadessa@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.

Biodiversity and Ecology

Conti, L., Valencia, E., Galland, T., Götzenberger, L., Lepš, J., E-Vojtkó, A. Carmona, C.P., Májeková, M., Danihelka, J., **Dengler, J.**, (...) & de Bello, F. (2023). Functional trait trade-offs define plant population stability across different biomes. *Proceedings of the Royal Society B* 290: Article 20230344. DOI: <https://doi.org/10.1098/rspb.2023.0344>

Dengler, J. & Dembicz, I. 2023. Should we estimate plant cover in percent or on ordinal scales? *Vegetation Classification and Survey* 4: 131–138. DOI: <https://doi.org/10.3897/VCS.98379>

Dengler, J. & Willner, W. 2023. Proposal (31) to conserve the name *Brachypodium pinnati* Korneck 1974 as a nomen conservandum with a conserved type. *Vegetation Classification and Survey* 4: 63–68. DOI: <https://doi.org/10.3897/VCS.100985>

Engel, T., Bruelheide, H., Hoss, D., Sabatini, F.M., Altmann, J., Arfin-Khan, M.A.S., Aubin, I., Bergmeier, E., Černý, T., Chytrý, M., Dainese, D., **Dengler, J.**, (...) & Pillar, V. 2023. Traits of dominant plant species drive NDVI in grasslands globally. *Global Ecology and Biogeography* 32: 695–706. DOI: <https://doi.org/10.1111/geb.13644>

Skobel, N., Borovyk, D., Vynokurov, D., Moysiienko, I., Babitskyi, A., Bednarska, I., Bezsmertna, O., Chusova, O., Dayneko, P., **Dengler, J.**, Guarino, R., Kalashnik, K., Khodosovtsev, A., Kolomyichuk, V., Kucher, O., Kuzemko, A., Shapoval, V., Umanets, O., Zagorodniuk, N., Zakharova, M. & Dembicz, I. 2023. Biodiversity surveys of grassland and coastal habitats in 2021 as a documentation of pre-war status in Southern Ukraine. *Biodiversity Data Journal* 11: e99605.

Venn, S., Teerikangas, J. & Juho Paukkunen, J. 2023 Bees and pollination in grassland habitats in Helsinki (Finland) are diverse but dominated by polylectic species. *Basic and Applied Ecology* 69: 1–12. DOI: <https://doi.org/10.1016/j.baae.2023.03.003>

Conservation and Restoration

Ancillotto, L. & Labadessa, R. 2023. Can protected areas and habitats preserve the vulnerable Predatory bush cricket *Saga pedo*? *Journal of Insect Conservation* 1–10. DOI: <https://doi.org/10.1007/s10841-023-00484-w>

Ancillotto, L., Labadessa, R., Roscioni, F., Montioni, F., Zollo, L. & Spilinga, C. 2023. Protected habitats support bats in Mediterranean dry grasslands. *Science of the Total Environment* 882: e163415. DOI: <https://doi.org/10.1016/j.scitotenv.2023.163415>

Valkó, O., Borza, S., Godó, L., Végvári, Z. & Deák, B. 2022. Eurasian crane (*Grus grus*) as ecosystem engineer in grasslands – conservation values, ecosystem services and disservices related to a large iconic bird species. *Land Degradation and Development* 33: 2155–2165.

Valkó, O., Kelemen, A., Kiss, O. & Deák, B. 2022. Patch and matrix characteristics determine the outcome of ecosystem engineering by mole rats in dry grasslands. *PeerJ* 10: e14582.

Kiss, R., Deák, B., Tóth, K., Lukács, K., Rádai, Z., Kelemen, A., Migléc, T., Tóth, Á., Godó, L. & **Valkó, O.** 2022. Co-seeding grasses and forbs supports restoration of species-rich grasslands and improves weed control in ex-arable land. *Scientific Reports* 12: 21239.

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Forthcoming Events

65th Annual Symposium of IAVS

4-8 September 2023, Coffs Harbour, Australia

Conference website: <https://iavsaustralia2023.com>

18th Eurasian Dry Grassland Conference 2023

25-28 September 2023, Szarvas, Hungary

Conference website: <https://www.egc2023.hu/>

7th European Congress of Conservation Biology (ECCB)

17-21 June 2024, Bologna, Italy

Conference website: <https://eccb2024.eu/>

18th EDGG Field Workshop

June 2024, SW Alps, Italy and France

Details to be announced later

19th Eurasian Dry Grassland Conference 2024

6 August – 1 September 2024, Bolzano/Bozen, Italy

Details to be announced later



Argynnis paphia in Balmberg, Solothurn, Switzerland. Photo: M. Büchler.



EDGG on the web:

<http://www.edgg.org>



The Eurasian Dry Grassland Group (EDGG), founded in 2008, is a working group of the International Association for Vegetation Science (IAVS) and member of the European Forum on Nature Conservation and Pastoralism (EFNCP). On 25 July 2023, it had 1417 members from 65 countries.

The **Eurasian Dry Grassland Group (EDGG)** is a network of researchers and conservationists interested in any type of Palaeartic natural and semi-natural grasslands. It is an official Working Group 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 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.

EDGG Executive Committee and responsibilities of its members

Idoia Biurrun, Spain, idoia.biurrun@ehu.es
Membership Administrator; Deputy Chief Editor of *Palaeartic Grasslands*

Jürgen Dengler, Switzerland, dr.juergen.dengler@gmail.com
Secretary-General; Deputy Treasurer and Representative to IAVS; Special Feature Coordinator; Deputy Chief Editor of *Palaeartic Grasslands*; Deputy Field Workshop Coordinator

Ellen DeVrieze, Belgium, ellen.devrieze@ugent.be
Social Media Administrator; Deputy Editor of Website; Deputy Secretary-General

Rocco Labadessa, Italy, rocco.labadessa@gmail.com
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Treasurer and Representative to IAVS; Deputy Chief Editor of *Palaeartic Grasslands*

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Adonis vernalis. Photo: J. Dengler.