EDGG Event

DOI: 10.21570/EDGG.PG.58-59.14-25









Conference report 18th Eurasian Grassland Conference 2023, Hungary https://www.egc2023.hu/

Introduction

The 18th Eurasian Grassland Conference (EGC) was organised in Hungary this year by the 'Lendület' Seed Ecology Research Group (Centre for Ecological Research) and the Körös-Maros National Park Directorate. The topic of the conference was 'Conservation and management of grasslands in transforming landscapes'. The Conference took place from 25 to 28 September 2023, and was followed by a three-day long post conference excursion in the Kiskunság National Park. The Venue was the 'Körösvölgyi Állatpark', which is the Visitor Centre of the Körös-Maros National Park Directorate that is located in the town of Szarvas in the floodplain of the Körös River. The conference had altogether 98 participants from 20 countries (Austria, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Germany, Hungary, Ireland, Kazakhstan, Latvia, Lithuania, Poland, Slovenia, Sweden, Switzerland, Spain, Ukraine, United Kingdom, Uzbekistan).



Grazing Hungarian Grey cattle in alkali grasslands. Photo: S. Borza.



The conference venue in Szarvas. Photo: Z. Babák.



Introduction presentation of the Körös Maros National Park by Péter Bánfi. Photo: L. Godó.



The youngest researcher generation also provided help at the registration desk. Photo: L. Godó.



Happy organizers at the registration desk. Photo: T. Hamřík.

Workshop on grassland-related spiders

On the first day of the conference Róbert Gallé, Nikolett Gallé-Szpisjak (Centre for Ecological Research) and Tomás Hamrík (Mendel University in Brno) experts in animal ecology, arachnology and grassland conservation led a workshop entitled 'Introduction to grassland-related spiders'. The participants of the workshop got an exciting interactive overview on the most important grassland related spider taxa, their main functional groups, and also an introduction to field sampling methodology. The program included several lectures about the theoretical background, and also an outdoor part where the participants had the opportunity to try basic sampling methods.



Enthusiastic introductory talk by Róbert Gallé about grassland-related spiders. Photo: T. Hamřík.



Field sampling during the Spider Workshop. Photo: T. Hamřík.



Determination of the caught spiders. Photo: H. Seiler.

Talks and poster sessions

The conference included 38 oral and 32 poster presentations focusing on grassland plant and animal ecology, syntaxonomy, the effect of climate change on grassland habitats, invasive species and grassland management and restoration. The presented studies provided a deep insight into the flora, fauna, diversity, management, and restoration of Palaearctic grasslands in changing modern landscapes. The talks were organized in a total of six sessions. The hard copies of the posters were displayed in the corridors of the visitor centre during the whole conference, and the electronic version of the posters were briefly presented in the lecture hall during the two thematic poster sessions.



The posters were displayed in the visitor centre, next to interesting local exhibitions. Photo: L. Godó.



Lively discussion in the coffee break. Photo: L. Godó.

Plenary talks

During the conference there were three plenary and one keynote talks revealing different aspects of grassland management, restoration and conservation. Corrado Marcenò, from the University of Perugia presented a talk entitled "Data collected by amateur botanists: coupling an old tradition and citizen science offers new opportunities for habitat monitoring and conservation". Denys Vynokurov, from M.G. Kholodny Institute of Botany, National Academy of Sciences of Ukraine and the University of the Basque Country, provided new insights on the broad-scale classification of European dry grasslands and scrub vegetation. Szabolcs Lengyel, from Centre for Ecological Research revealed the aspects of grassland restoration and management with a special focus on animal taxa. András Kelemen (Department of Ecology, University of Szeged and Centre for Ecological Research) gave a keynote lecture on the current situation and challenges in grassland conservation and restoration in the Kiskunság region of Hungary.



Our plenary and keynote speakers (from left to right): Corrado Marcenò, Denys Vynokurov, Szabolcs Lengyel and András Kelemen.



Our large group headed towards exploring the grasslands in the mid-conference excursion. Photo: T. Hamřík.

Mid-conference excursion

In the mid-conference excursion, the participants could get an overview of the unique 'puszta' experience. Before the departure of buses, Ábel Molnár (Hungarian University of Agriculture and Life Sciences) and Péter Bánfi (Körös-Maros National Park Directorate) delivered introductory talks about the vegetation and flora of the region, as well as about the mission and goals of the National Park. The midconference excursion was guided by Ábel Molnár, Péter Bánfi and Judit Kapocsi (Körös-Maros National Park Directorate) who showed us a great variety of protected grassland areas in the Körös-Maros National Park. The trip started in the floodplain of the River Maros, where the participants visited an ancient burial mound (so called Bekaikurgan) covered by species-rich forest steppe vegetation on the north-, and steppe-like vegetation on the southern slope. These grasslands and the related species (such as Phlomis tuberosa, Thalictrum minus and Agropyron cristatum) have become extremely rare in the landscape due to intensive agricultural activities. Then the excursion continued in the 'Csanád puszták' protected area. Before exploring the endless grasslands, we were hosted by the Körös-Maros National Park Directorate in the Dália-major where they waited for the group with coffee, beverages and traditional sweets. After this nice refreshment, we explored the several types of pristine Pannonian alkali habitats and the vertical vegetation zonation gradient typical of alkali open landscapes, which are preserved at the site in an excellent condition. The gradient involved loess grasslands on the highest and alkali grasslands and marshes on lower elevations. Many grassland specialist plants typical to open alkali mud surfaces (Myosurus minimus), alkali grasslands (Limonium gmelinii subsp. hungaricum) and loess grasslands (Sternbergia colchiciflora) were flowering or in fruit. The last stop of the excursion was at the White Lake ('Fehér-tó') in Kardoskút, which is one of the most beautiful white-water alkaline lakes of the Great Plain. We first enjoyed the spectacular views of the lake from the observation tower and also had a nice refreshment thanks to the National Park. This walk was a unique experience: in the basin of the lake, it was possible to walk through the stands of *Suaeda pannonica*, *Puccinellia distans* subsp. *limosa* and *Tripolium pannonicum*.



The best surprise: the National Park welcomed us with coffee, beverages, and sweets. Photo: T. Hamřík.



Flowering field of Sternbergia colchiciflora. Photo: Á. Molnár.



Réka Kiss was responsible for keeping the group together – with a traditional herder instrument called 'kolomp'. Photo: T. Hamřík.



Presentation during the mid-conference excursion by Ábel Molnár. Photo: D. Vynokurov.



Lycosa singoriensis is the largest spider species in Hungary. Photo: T. Hamřík.



Little rest during the excursion. Photo: I. Rabyk.



Group photo during the mid-conference excursion. Photo: A. Kelemen.

Social events

In the first day of the conference participants could take part in an exciting guided tour in the zoological garden at the Visitor Centre of the National Park. The guide of the tour was Krisztina Körömi, the director of the Visitor Centre, who told several exciting and less known facts and stories about the animals that once inhabited this part of the Carpathian Basin. Participants could have a close encounter with the inhabitants of the zoo. After that, during the welcome reception people had the possibility to meet each other while tasting local food and drinks.

After the mid-conference excursion, the participants could take part in a Hungarian folklore program and also learnt some traditional Hungarian dances. The night continued with a dinner consisting traditional Hungarian 'outdoor' meals (beef gulash stew and mushroom stew) prepared on open fire, then with the lead of Martin Magnes, the Auction began. In the Auction grassland-related items (such as cheese, wine, paintings, photographs, herbs, and decorations made of wildflowers) kindly provided by the participants from many countries were auctioned. Altogether 765 euros were collected that will be used for supporting grassland science with the coordination of the EDGG EC.



Presentation by Krisztina Körömi at the Zoo. Photo: D. Vynokurov.



Meeting of botanists and large grazers. Photo: D. Borovyk.



Another cheerful human-wildlife interaction. Photo: T. Hamřík.



Cheerful moments of the Auction. Photo: T. Hamřík.



A lot of very happy people. Photo: L. Godó.

General Assembly and Closing Ceremony

At the end of the last conference day, the EDGG General Assembly was held. During the Assembly, chairs of the EDGG Executive Committee informed the participants about past, current and future activities, including conferences, field workshops, special features and databases. One of the most important news was the announcement about the 19th Eurasian Grassland Conference that will be held in Bolzano in 2024, organised by Andreas Hilpold (Eurac Research, Institute for Alpine Environment).

The announcement of the winners of the Young Investigator Prizes (YIP, in the categories of talks and posters for researchers under the age of 35 years) was the final highlight of the Closing Ceremony. The winners of the YIP at the 18th EGC were:

Oral presentations:

- 1. Ábel Péter Molnár: The Flora Continuity Hypothesis: massive potential survival of the flora since before the Last Glacial Maximum in the Carpatho-Pannonian region.
- Szymon Czyżewski: Niche of plant species native to the temperate forest biome in Europe matches a heterogenous natural vegetation shaped by megaherbivores.
- 3. Gantuya Batgelder: Traditional ecological and herding knowledge in the forest steppe region in Mongolia.

4. Svenja Wanke: Elevational patterns in calcareous grassland community diversity and flower colour spectra in the European Alps.

Poster presentations:

- 1. Katalin Lukács: A new aspect of seed dispersal: Humandispersed propagules can survive and disperse after laundry washing.
- 2. Gergő Rák: Effects of grazing pressure and phytomass productivity on the density of the hungarian meadow viper (*Vipera ursinii rakosiensis*) in Kiskunság.
- 3. Dariia Borovyk: The impact of low-intensity, regularintensity mowing and mowing abandonment on a diversity of semi-natural grasslands in South Moravia (Czech Republic).

The ceremony ended with the organizing team on the stage: Orsolya Valkó, Balázs Deák, András Kelemen (chairs of the organising committee), Rita Engel, Réka Fekete, Laura Godó, Orsolya Kiss, Réka Kiss, Eszter Korom, Abdubakir Kusbakhov, Katalin Lukács, József Nagy, Ágnes Tóth ('Lendület' Seed Ecology Research Group, Institute of Ecology and Botany, Centre for Ecological Research), Péter Bánfi, Judit Kapocsi, Krisztina Körömi, Judit Lestyan-Goda (Körös-Maros National Park Directorate).



Winners of the Young Investigator Prizes. From left to right: Dariia Borovyk, Gergő Rák, Svenja Wanke, Gantuya Batgelder, Szymon Czyżewski, Ábel Péter Molnár, and Katalin Lukács. Photo: D. Vynokurov.

Post-conference excursion

The purpose of the post-conference excursion was to provide participants with a broad overview of the habitats and conservation efforts in a characteristic part of the Great Hungarian Plain, the Danube-Tisza Interfluve. The excursion was led by András Kelemen, who designed the program to show the large-scale vegetation zonation of the landscape. In the middle of the region lies the Danube-Tisza Interfluve sand ridge, primarily comprising sandy grasslands and forest steppes. Moving towards the two big rivers (Danube and Tisza), the sand ridge is followed by the Turjánvidék, characterized by meadow habitats. The groundwater flowing from the direction of the sand ridge emerges to the surface (or comes close to the surface) in this area. Following this, as we move towards the rivers, we can see extensive saline habitats.

Our first stop was a solonetz saline grassland in the Tisza Valley. Orsolya Kiss and András Kelemen introduced the area, and explained that some parts of the visited grassland are secondary habitats, formerly used as fishponds until the early 2000s. But now in these areas, various types of saline grasslands have regenerated well. The dikes of the fishponds were removed in 2019 as part of the Roller Life project. The traces of the dikes are still visible four years after the soil works, but open saline communities colonized the linear landscape scars and became very similar to natural ones. Among the characteristic endemic species of open saline grasslands, Suaeda pannonica (Pannonian endemism) and Plantago schwarzenbergiana (Dacic-Pannonian endemism) occur here. After exploring the grasslands, we went up to the observation tower near the Roller Visitor Centre, from where we could overlook Lake Fehér which is a fishpond system and a famous birdwatching place.

The next program was special not only because we had to walk a considerable distance to reach our destination, but also because we visited a secondary habitat that most participants had not encountered before. It was a large (more than 30 hectares) abandoned sand quarry. The northern part of the area was excavated deeper than the southern part. Consequently, in the northern section they reached the more compact soil layer with higher salinity under the sand, which led to the formation of saline habitats after the abandonment. The recovered habitat has communities very similar to the natural alkali pans. The country's largest population of *Cyperus pannonicus* can be found here. In the shallower part, meadow habitats had regenerated, with many orchid species, which were not in their most spectacular state in the autumn. However, we observed numerous specimens of *Blackstonia acuminata*, which are highly endangered plant species in this drying landscape and aban-



The traces of the former dikes are still visible, open saline communities with the endemic *Suaeda pannonica* regenerated well. Photo: A. Kelemen.



The alkali vegetation in the abandoned sand quarry very similar to the natural alkali pans. Photo: A. Kelemen.



Cyperus pannonicus and *Suaeda pannonica* in the abandoned sand quarry . Photo: A. Kelemen.



People in the mine. Photo: A. Kelemen.

doned sand quarries can serve as anthropogenic refuges for them.

After the "mining" and "walking", to the delight of everyone, we stopped for some ice cream and coffee. As the last program of the day, we visited a typical stand of sandy forest steppe near Tázlár, where we saw *Dianthus diutinus*, considered an endemic species in the Danube-Tisza Interfluve sand ridge. After this long day, our chefs prepared a delicious BBQ dinner for us.

On the second day, we visited the sand dunes near Fülöpháza. Here, György Kröel-Dulay (Centre for Ecological Research) introduced us his climate manipulation experiment. He gave a comprehensive and very interesting introduction to the drivers of vegetation dynamics of the sandy grasslands. We got to know the functional traits of species, which have adapted to the abiotic environmental conditions, and which also determine the interactions between species in this harsh environment. Following this, the ExDrain experimental site was introduced, one interesting aspect of which was that the extreme drought treatment applied at the beginning of the experiment actually occurred in the surrounding grasslands as well, due to the exceptionally dry weather in the past year. After that, we took a walk in this sandy area covered by juniper-poplar forest-steppe, led by Ferenc Pálszabó, a ranger from the Kiskunság National Park Directorate. He provided detailed information about the wildlife of the area, its history, management, conservation issues, and applied conservation practices. The unique landscape was further enhanced by the colourful, sphericalshaped thumbleweeds of the Corispermum nitidum, which is a protected plant in Hungary. The mass appearance of



Discussion about Plantago indica. Photo: P. Sengl.



György Kröel-Dulay shows the roots of *Festuca vaginata* starting from a shallower depth than the roots of the other dominant species of sandy grasslands, *Stipa borysthenica*. Photo: D. Vynokurov.



Introduction of the climate manipulation experiment. Photo: P. Sengl.



Ferenc Pálszabó presents the nature conservation issues of the sandy habitats. Photo: A. Kelemen.

this species in undisturbed sand grasslands is a rare phenomenon, occurring especially after dry years or following wildfires.

Our next point was an area invaded by the prickly pear cactus (*Opuntia humifusa*). Here, we discussed the causes and consequences of cactus invasions. Many were surprised to



Smooth snake (Coronella austriaca). Photo: P. Sengl.



Group photo on a sand dune. Photo: A. Kelemen.



Sandy landscape with *Corispermum nitidum*. Photo: A. Kelemen.



Prickly pear cactus (*Opuntia humifusa*) invasion in a sandy grassland. Photo: A. Kelemen.

hear about the extensive populations of naturalized cacti in the Great Hungarian Plain, which is why it was beneficial for them to see one with their own eyes.

On Saturday afternoon, we headed to the area near Kunpeszér, where we had the opportunity to witness vast mosaic grasslands consisting of wet meadows, meadow steppes, and sandy steppe meadows. Additionally, we gained insights into the dynamics of broad-leaved deciduous forest-steppes. Csaba Vadász, a ranger from the Kiskunság National Park Directorate, presented the results of their research on the regeneration of forest-steppes, highlighting the roles of abiotic processes, consumers, pathogens, and structural elements of vegetation in the dynamics of the forest-steppes.

During the day, we walked a lot and, on several occasions, we had to hurry to ensure there was time for the evening program, which was a wine tasting. During this, we were given a glimpse of the best wines from the Danube-Tisza Interfluve, guided by our expert, Roland Tengölics. The wine tasting set the tone for the rest of the evening to be filled with a great atmosphere.

On the last day, we explored the loess dune used as a sacred place (cemetery) and closed sandy grasslands around our accommodation, where we saw the blooming of the rare and endangered *Colchicum arenarium*.

Our last destination was the alkali habitats of Mikla-puszta, which is the most beautiful alkali landscape along the Danube Valley, with a complete set of alkali habitat types represented in this area. Here, the excursion's organizer spoke about their research conducted in the area, which revealed the dual effect of cattle grazing on this alkali habitat complex. Grazing has a positive effect on the vegetation of the lowest and highest parts of this mosaic landscape. In the lowest parts, it can control the spread of reeds, while in the higher elevations, in the loess plateaus, it can increase vege-



Colchicum arenarium. Photo: D. Borovyk.



Donkey sausage party in the middle of the puszta. Photo: A. Kelemen.



Wine tasting. Photo: D. Borovyk.

tation diversity and the number of orchids by reducing living biomass and litter. However, on the slopes of the plateaus, it has an adverse effect because of the accelerated erosion. As a surprise, the staff from the Dunatáj Foundation (responsible for managing the area) welcomed us with a small snack, and so, as a farewell gesture, we watched the grazing flock of sheep while enjoying donkey sausage.

Acknowledgments

We are especially indebted to the Körös-Maros National Park Directorate who kindly provided the venue, organized the mid-conference excursion, and supported the conference in all possible ways. We thank the colleagues of the Centre for Ecological Research for the essential help in managing many administration issues and transportation before, during and after the conference. We are grateful for the Kiskunság National Park Directorate for supporting the professional program of the post-conference excursion. Big thanks to György Kröel-Dulay (Centre for Ecological Research), Csaba Vadász, Ferenc Pálszabó (Kiskunság National Park Directorate) and Rozália Kustár (Dunatáj Foundation) for being our professional guides during the postconference excursion. We really enjoyed and appreciated the services of the BBQ Heroes Restaurant and the Kiskunság Betyár Kúria. We are also grateful to the IAVS for their financial support provided for Ukrainian scientists and young scientists from many countries. Many thanks for the BirdLife Hungary for sponsoring the event. We were delighted that, through the coordinated efforts of the conference's main organizers, additional organizers, and numerous colleagues and service providers, everything ran smoothly. And last but not least we are grateful for the participants of the conference for presenting great science, and sharing memorable moments during scientific discussions, social events and during the exploration of the grasslands in the Hungarian lowlands. We appreciate the participants for being so cheerful and curious!

> Balázs Deák, Vácrátót, Hungary, debalazs@gmail.com

Orsolya Valkó, Vácrátót, Hungary, valkoorsi@gmail.com

András Kelemen, Szeged, Hungary, kelemen.andras12@gmail.com



Alkali landscape in Mikla-puszta. Photo: D. Vynokurov.