Széchenyi Terv Plusz Építsük együtt Magyarországot!
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National Laboratory for Health Security

INVASION BIOLOGY DIVISION

SEEN HUNGARY 2024

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Citizen Science Conference and Workshop

HUN REN CENTRE FOR ECOLOGICAL RESEARCH

18–19. Januray 2024, Tata, Hungary

SEEN HUNGARY 2024 - Citizen Science Conference and Workshop

The Organisers, both as researchers of the Centre for Ecological Research and nature lovers themselves, are proud to present the abstract book for the SEEN 2024 Citizen Science Conference and Workshop. The main purpose of the SEEN (Social Engagement in Ecology Network) conference is to create a genuine connection between Hungarian community science projects and the researchers involved. Our main goal is to launch a network of citizen science researchers, where real collaborations could form around common themes and common goals.

Citizen science, or community science, is not only a scientific method. It is also a bridge between science and society, and a potentially powerful tool for strengthening the role of scientists and active citizens in decision making processes. Our aim is to establish solid foundations for long-term collaborations with the above ambitious goals.

The first day of the conference will see numerous, and in their focus quite a diverse set of presentations on various community science projects. The second day is reserved for discussions: workshops on topics that are potentially relevant to any citizen science project, and longer breaks for free discussions.

We truly hope that this occasion will prove to be the first of many fruitful discussions on the past, present and future of community science in Hungary.

The Organisers

Conference organisers:
László Zsolt Garamszegi (HUN-REN Centre for Ecological Research)
Zsóka Vásárhelyi (HUN-REN Centre for Ecological Research)

Scientific committee:
Barbara Barta (HUN-REN Centre for Ecological Research)
Gábor Földvári (HUN-REN Centre for Ecological Research)
Attila Lengyel (HUN-REN Centre for Ecological Research)
Zsuzsanna Márton (HUN-REN Centre for Ecological Research)
Zoltán Soltész (HUN-REN Centre for Ecological Research)
Éva Szabó (HUN-REN Centre for Ecological Research)
Tamara Szentiványi (HUN-REN Centre for Ecological Research)

Conference supported by
the National Research, Development and Innovation Office (RRF-2.3.1-21-2022-00006) and
HUN-REN Centre for Ecological Research

Program

THURSDAY, 18 January 2024

09:00 - 10:00 Registration
10:00 - 10:30 Opening words and presentation
László Zsolt Garamszegi (HUN-REN Centre for Ecological Research)
Zsóka Vásárhelyi (HUN-REN Centre for Ecological Research)
Environmental and socio-economic factors behind data provision in 17 Hungarian citizen science projects

10:30 - 11:30 Presentations
Orsolya Valkó (HUN-REN Centre for Ecological Research)
Nature in urban gardens: studying attitudes of garden owners towards environmental friendly practices

László Mezőfi (Research Institute of Organic Agriculture)
Spider-Web: a citizen science project assessing the biodiversity of private gardens using spiders as indicators

Zsuzsanna Márton (HUN-REN Centre for Ecological Research)
MyPond: The Survey of garden ponds

Barbara Barta (HUN-REN Centre for Ecological Research)
MyPond: The sampling of garden and public ponds

11:30 - 11:45 break
11:45 - 13:00 Presentations
Éva Szabó (HUN-REN Centre for Ecological Research)
The TickWatcher project – monitoring ticks and tick-borne pathogens in Hungary

Kornélia Kurucz (University of Pécs)
Together for the survey of mosquitoes – beyond the invasive species

Zoltán Soltész (HUN-REN Centre for Ecological Research)
A surveillance program of invasive mosquitoes based on community science in Hungary

Tamara Szentiványi (HUN-REN Centre for Ecological Research)
Estimating Dirofilaria occurrence and distribution in Hungary using citizen science

Júlia Koltai (HUN-REN Centre for Social Sciences)
Citizen Science in Health-Related Survey Research: The Methodology and Consequences of the MASZK1.0 Study

13:00 - 14:30 lunch break

14:30 - 15:45 Presentations

EMESE GYÖNGYÖSI (Research Institute of Organic Agriculture)
Leaf mould based growing media for organic transplant production

ATTILA SÁNDOR (Szeged Fungus Association)
Citizens for the fungi diversity assessment

MÁRIA HÖHN (Hungarian University of Agriculture and Life Sciences)
Mapping the spread of the invasive Hedera crebrescens using the Citizen Science method; one year's experience

ERIKA JUHÁSZ (HUN-REN Centre for Ecological Research)
BeaverMap, a citizen science program in the service of discovering the beaver-made landscape alteration

SÁNDOR ZSEBŐK (HUN-REN Centre for Ecological Research)
Bats and Solar Panels: A Global Initiative for Citizen-Science-Based Research

15:45 - 16:15 break

16:15 - 17:15 Presentations

SARAH KIEFER (Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany)
Report from two Citizen Science projects from Germany with different levels of engagement

OLIVÉR VÁCZI (Herman Otto Institute Nonprofit Ltd.)
Biodiversity monitoring: by specialists, volunteers, or both?

MIKLÓS BÁN (University of Debrecen)
Open science-based pollinator monitoring

BÁLINT HALPERN (BirdLife Hungary)
„Herptérkép", the Hungarian Amphibian and Reptile Mapping Program and its unexpected consequences

17:15 - 17:30 break

17:30 - 18:30 Presentations

PÉTER LOVÁSZI (BirdLife Hungary)
60 million data records - 50 years of BirdLife Hungary in the field of citizen science

JOHANNA SORIA AGUIRRE (Hungarian University of Agriculture and Life Sciences)
Strengths and challenges of nature conservation citizen science projects in Hungary

ZOLTÁN PÉTER ALFÖLDI (Hungarian University of Agriculture and Life Sciences)
Prospects of university students to participate in citizen science - a case study

ZOLTÁN CSABAI (University of Pécs)
In the wake of disappearing water - user engagement in the DRYRivERS project

18:30 dinner

19:30 Semi-organised playing at the venue

FRIDAY, 19 January 2024

9:00 First block of workshops

Data validation, data handling, reliability. Citizen Science as a scientific method

Moderator: MIKLÓS BÁN & OLIVÉR VÁCZI

Communication in sensitive topics (invasive species, biodiversity, pathogens, climate crisis)

Moderator: JÚLIA KOLTAI & TAMARA SZENTIVÁNYI

10:45 - 11:00 break

11:00 Second block of workshops

Motivating and involving volunteers, community building

Moderator: LÁSZLÓ GARAMSZEGI & ZSOLT MOLNÁR

Networking opportunities, harmonization of projects

Moderator: GÁBOR FÖLDVÁRI & KORNÉLIA KURUCZ

13:00 - 14:30 lunch break

14:30 - 15:30 Workshop summaries

15:30 Discussion about the future of SEEN (Moderator: LÁSZLÓ ZSOLT GARAMSZEGI)

ABSTRACTS

Environmental and socio-economic factors behind data provision in 17 Hungarian citizen science projects

Zsóka Vásárhelyi[1], Barbara Barta[2, 3, 4], Birding.hu project, Marianna Biró[1], Zoltán Csabai[5], Gábor Földvári[6, 7], Bálint Halpern[8] , Zsófia Horváth[2, 3], Erika Juhász[1, 9], Balázs Károlyi[10], László Mezőfi[11], Péter Lovászi[12], Barna Páll-Gergely[13], Bálint Pernecker[5], Zoltán Soltész[1,9], Éva Szabó[6, 7], Ágnes Turóci[13], Vadonleső Csoport[15], Judit Vörös[8, 14], László Zsolt Garamszegi[1, 9]

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[14]Hungarian Natural History Museum, Budapest, Hungary
[15]Herman Otto Institute Nonprofit Ltd., Budapest, Hungary, contact: Olivér Váczi

Citizen science is not only a tool for collecting scientifically relevant data from diffuse sources, it is also an opportunity to connect people to science, and to raise awareness of natural phenomena. For all three purposes it is essential to understand the factors influencing participation in citizen science projects. We have analysed the geographically tractable record-level databases of 17 separate projects to unravel some of the environmental and socio-economic factors underlying data provision. We have matched the records with an administrative database to identify the relevant indicators. Further, we launched a supplementary survey to characterise projects according to the origin of data relative to participants' homes. Our preliminary analysis confirms that data submission patterns vary highly according to the skills needed for participation, the purpose, the subject and further features of the projects. Our results provide new insights into the methodology and design of community science projects.
Funding: National Research, Development and Innovation Office (K135841, RRF-2.3.1-21-2022-00006), HUN-REN Hungarian Research Network

Nature in urban gardens: studying attitudes of garden owners towards environmental friendly practices

Orsolya Valkó, Eszter Korom, Katalin Lukács, Réka Kiss, Ágnes Tóth, Benedek Tóth, Kusbokhov Abdubakir, Rita Engel, Balázs Deák, Laura Godó

HUN-REN Centre for Ecological Research

Gardens are often decorated with non-native plants, which make them as potential starting points of plant invasions. Using native plants that are adapted to the regional soil and climatic conditions instead of non-natives can decrease the risks of future invasions. In our project (https://www.vadviragoskertem.hu/), we ask people to choose 5 of 24 native wildflower species and offer seeds for decorating their gardens. In a questionnaire, we asked about the participants' attitude towards environmental-friendly practices in gardening, and their reasons for choosing the certain set of species. We aim to create a community of people interested in environmental-friendly gardening and will address follow-up questions about the establishment of the wildflowers. So far >5,000 people from 946 settlements filled out the questionnaire. We hope that our project can increase social awareness and raise the profile of native plants as important components of urban biodiversity. We aim to give recommendations for a set of native plants that can successfully establish in gardens and offer an attractive alternative to non-native species.

Funding: Hungarian National Research, Development, and Innovation Office, MEC_N_21_140750

Spider-Web: a citizen science project assessing the biodiversity of private gardens using spiders as indicators

László Mezőfi, Ádám Mézes, Péter Sulyán, Emese Gyöngyösi, Ferenc Tóth

Research Institute of Organic Agriculture, Budapest, Hungary

Private gardens serve as valuable habitat fragments conserving a part of local biodiversity. However, gardening practices can have a serious impact on the faunal communities of gardens and reduce biodiversity. Spider (Araneae) communities are sensitive even to small changes in habitat structures making them good bioindicators of anthropogenic disturbances. Thus, using spiders, our aims were to assess the biodiversity of Hungarian private gardens and evaluate the putative effects of gardening practices on the structure and diversity of spider communities. In our citizen science program 214 participants registered a total of 223 gardens from 184 geographical locations. During the survey period (May–November, 2023) we received 2800 evaluable photographs on spider specimens occurring in the registered gardens. After processing the pictures, at least 127 spider taxa from 29 spider families were identified to species level. Preliminary results showed that pesticide applications affect the structure and diversity of garden spider communities negatively.

Funding: Our research was funded by the dm-drogerie markt.

MyPond: The Survey of garden ponds

Zsuzsanna Márton[1, 2], Barbara Barta[1, 2, 3], Csaba F. Vad[1, 2], Beáta Szabó [1, 2] , Andrew J. Hamer[1, 2], Vivien Kardos[1], Csilla Laskai[1, 2], Ádám Fierpasz[1, 3], Zsófia Horváth[1, 2, 4]

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The rapid expansion of urban areas leads to loss, fragmentation, and degradation of natural habitats, posing a serious threat to biodiversity. Despite urban ponds, particularly garden ponds, being potential contributors to urban blue-green infrastructure, their ecological role remains poorly understood. To address this gap, we conducted a nationwide, online citizen science survey in Hungary, involving over 800 pond owners. Our study assessed the impact of local habitat features, management practices, and urbanisation on garden pond biodiversity. Our findings highlighted the significance of pond features such as age, area, vegetation, and certain management practices (e.g. algaecide addition) in influencing aquatic species. Urbanisation negatively impacted adult amphibians and tadpoles but surprisingly not odonates and birds. Our results underscore the vital role of garden ponds in urban biodiversity conservation, emphasizing the importance of public involvement in developing effective conservation strategies and recognizing citizens' contributions to blue-green infrastructure.

MyPond: The sampling of garden and public ponds

Barbara Barta[1,2,3], Zsuzsanna Márton[1,2], Irene Tornero[1,2,4], Andrew J. Hamer[1,2], Péter Dobosy[1], Beáta Szabó[1,2], Csilla Laskai[1,2], Ádám Fierpasz[1,2,3], Vivien Kardos[1], Thu Hương Huỳnh Ngọc[1,2,3], Bence Buttyán[5], Csaba F. Vad[1,2], Zsófia Horváth[1,2,5]

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Ponds are small water bodies (<5 ha) that can serve as refuge for aquatic organisms including endangered and rare species, and they provide food and water for terrestrial animals. Their role in supporting biodiversity is crucial in cities where they can be stepping-stones between natural patches. However, our current knowledge of them is limited, especially considering the smallest, privately owned garden ponds. Therefore, we used a combination of standard and novel methods with a citizen science approach to sample macroinvertebrates, zooplankton, amphibians, invasive mosquitos, and microbes in 386 urban ponds in Hungary. Preliminary results show that the larger public and smaller garden ponds can indeed both be valuable habitats for aquatic species but they might also be sources of potentially invasive species. Engaging citizens in such projects not only allows us to collect large amounts of scientifically valuable data, but we can also use the opportunity for environmental education.
Funding: This work was supported by the National Multidisciplinary Laboratory for Climate Change project (RRF-2.3.1-21-2022-00014).

The TickWatcher project – monitoring ticks and tick-borne pathogens in Hungary

Éva Szabó[1,2], Gábor Endre Tóth[3,4], Zsófia Tauber[3,4], Flóra Kulin[1,2], Domonkos Köves[1,2], Máté Miklós[1,2], Gábor Kemenesi[3,4], Gábor Földvári[1,2]

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The goal of our research is to implement the DAMA (Document, Assess, Monitor, Act) protocol using citizen science. The TickWatcher Project was created to monitor the spread of non-native Hyalomma ticks caused by climate change. During the program we asked the participants to send us Hyalomma ticks - these species are vectors of the Crimean-Congo hemorrhagic fever virus (CCHFV). Thanks to our active media presence we received hundreds of ticks, including a total of 14 Hyalomma specimens. None of these carried CCHFV, but metagenomic sequencing revealed the largely unknown Volzhskoe virus, which is also a member of the Bunyavirales order. Based on the public interest in the program we launched the „Tick in the garden" project to assess the eco-epidemiological state of urban backyards by mailing flags suitable for collecting ticks to our volunteers. The number of applicants reached 480 in the first six months. The promotion of our programs is ongoing, while we also plan on-site samplings in urban areas and in assumed Hyalomma hotspots. Our work shows that citizen science together with the DAMA protocol can contribute to monitoring threats related to ticks and tick-borne pathogens.
Funding: This research was supported by the National Research, Development and Innovation Office in Hungary (RRF-2.3.1-21-2022-00006), the Sustainable Development and Technologies National Programme of the Hungarian Academy of Sciences (FFT NP FTA) and the COST Action CA21170 "Prevention, anticipation and mitigation of tick-borne disease risk applying the DAMA protocol (PRAGMATICK)"

Together for the survey of mosquitoes – beyond the invasive species

Kornélia Kurucz, Rebeka Csiba, Zsaklin Varga, Gábor Kemenesi

Institute of Biology, Faculty of Sciences, University of Pécs, Pécs, Hungary
National laboratory of Virology, University of Pécs, Pécs, Hungary

Bidirectional communication and community building are intrinsic characteristics of public participation and thus, are key aspects of citizen science projects. This approach is gaining a renewed impulse thanks to the advances in digital information and communication technologies, like social media platforms or mobile smartphone applications. By using a mobile app, the Mosquito Alert international citizen science project (to investigate disease-carrying mosquitoes with a special focus on invasive species), allows a wide range of users to submit information and receive feedback in return. The results are published on a public map, and anyone can download or use them for further analyses. On a local scale, beyond the invasive species, for an accurate assessment of mosquito nuisance, we have started bidirectional communication with the public and community building utilizing a dedicated social media platform known as „Pécsi Szúnyog". Thereby, enhancing citizens'

willingness to cooperate and improve control activities. In this presentation, we would like to briefly introduce our local communication strategy related to mosquitoes and report our experiences over the past mosquito season.
Funding: This work was supported by the National Research, Development and Innovation Office within the framework of the National Laboratory for Health Security programme (RRF-2.3.1-21-2022-00006) and by the FK-138563 Grant, Zs.V. was supported by the ÚNKP-23-3-II-PTE-1758 New National Excellence Program of the Ministry for Innovation and Technology

A surveillance program of invasive mosquitoes based on community science in Hungary

Zoltán Soltész[1,2], Kornélia Kurucz[3,4], Tamara Szentiványi[1], Ákos Bede-Fazekas[1], László Zsolt Garamszegi[1,2]

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In the last ten years, three invasive mosquito species (Aedes albopictus, Ae. japonicus, and Ae. koreicus) of Asian origin have appeared in Hungary. These invasive species can be of serious practical importance because they are potentially vectors of many more and more dangerous pathogens than native species.We have established a community science program in 2019, in which we asked the public to submit reports on their observations of invasive mosquitoes. We have alltogether collected and taxonomically validated about 4,500 reports that can be arranged along both the temporal and spatial scales. We aggregated these observations into 35 km2 quadrats and examined if these can be reliably used for scientific inferences. We have identified ecological factors that mediate the spread of invasive mosquitoes in Hungary and may predict their future spread. Distribution maps of the three invasive species in Hungary were prepared, which can be used to identify the ecological predictors that determine such spatial patterns, as well as to develop a mosquito control program and assess the epidemiological risk.
Funding: This work was supported by the National Research, Development and Innovation Office within the framework of the National Laboratory for Health Security programme (RRF-2.3.1-21-2022-00006), Hungarian National Research, Development and Innovation Office (K-135841, PD-135143) and HUN-REN Hungarian Research Network

Estimating Dirofilaria occurrence and distribution in Hungary using citizen science

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Dirofilariosis is an emerging mosquito-borne disease that is caused by the nematode species Dirofilaria immitis and threatens domestic dogs worldwide. Dirofilaria immitis has been established in Hungary since 2007. During our study, data were collected from dog owners in a community (or citizen) science campaign aiming to describe the spatiotemporal patterns of heartworm disease in Hungary, in which the practices of dog owners were also considered. The results of the questionnaire based on ~1650 respondents show that the disease is present across the country but with varying prevalence (of which the average is 19.7%). Overall, the occurrence of heartworm disease in Hungary shows an increasing trend compared to the results of previous years, and the central and eastern regions of the country show the highest prevalence. Dog ownership habits, such as the daytime/nighttime housing of dogs, also contribute to the prevalence of the disease in Hungary. Developing new and improved surveillance and control strategies to better manage this emerging disease is increasingly important.

Citizen Science in Health-Related Survey Research: The Methodology and Consequences of the MASZK1.0 Study

Júlia Koltai[1, 2], Márton Karsai[3, 4], Gergely Röst[5]

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Following the outbreak of the COVID-19 pandemic in Hungary, tracking the contact patterns of the population has become extremely important for studying and predicting the spread of the pandemic. To monitor contact patterns and other, health-related data, the MASZK project (Hungarian Data Reporting Questionnaire) was initiated with the active participation of the population. An anonymous questionnaire was developed for voluntary completion. One section of the questionnaire was only completed during the initial completion, while for other sections, participants were asked to provide daily responses. The use of online cookies enabled the tracking of changes in the contact patterns for the same individuals. Participants were recruited through multi-platform campaigns aimed at raising awareness of the importance of data collection for protection purposes. The presentation will provide information on the project's recruitment campaign, the social-demographic composition and the changing number of the participants, the content of the questionnaire, and the dynamic results of the data collection as well.
Funding: National Laboratory for Health Security, RRF-2.3.1-21-2022-00006

Leaf mould based growing media for organic transplant production

EMESE GYÖNGYÖSI, NURI NURLAILA SETIAWAN

Research Institute of Organic Agriculture, Budapest, Hungary

Green composts have been among the main topics of ÖMKi's research for many years, as they have many potential uses, are sustainable and easy to obtain. A unique type of compost is leaf mould, which is made from the leaves of deciduous trees, a very valuable, soft, airy material, and therefore an excellent medium for seedling production. Our citizen science research (in collaboration with Agrofutura Ltd.) focuses on leaf mould, which is used for seedling production of organic vegetable crops. Participants had to record the development (seedling emergence, appearance and number of true leaves) of their plants, grown both in leaf mould and their proven seedling medium (as control) on a weekly basis for 4-6 weeks. ÖMKi provided the compost and seeds for for all participants to conduct the experiment. By the end of the programme, we had collected a large amount of data from volunteer growers, which confirms our belief that leaf mould can be ideal for use as a propagation soil.

Citizens for the fungi diversity assessment

ATTILA SÁNDOR

Szeged Fungus Association, Szeged, Hungary

We are in the sixth mass extinction, where animal and plant species are going extinct at an alarming rate. Certainly, fungi are no exception, but shockingly little knowledge is available. In the IUCN Red list, there are two orders of magnitude less fungi than animals or plants. The conservation status is not evaluated, and the extinction risk of the species of the second-largest kingdom of life is unknown. According to IUCN, it is an under-researched and under-financed field. As a research officer of a conservation NGO, I would like to present a running project that aims to build infrastructure supporting citizen science activity of fungi diversity assessment.
Funding: Agrárminisztérium PTKF/252/2023

Mapping the spread of the invasive Hedera crebrescens using the Citizen Science method; one year's experience

Mária Höhn[1], Virág Grónás[1], Beáta Darabosné Mackó[1,2]

[1]Hungarian University of Agriculture and Life Sciences
[2]Entz Ferenc Library and Archive, Hungarian University of Agriculture and Life Sciences

One of the obvious characteristics of climate change in Europe is the spread of broad-leaf evergreen species, such as ivies. The phenomenon was previously reported from Belgium, but in the recent years it has been increasingly observed in our country as well. Among the ivy species, several escaped from cultivation and the syndrome is called lianification. H. crebrescens is a species identified in 2017, the origin of which is unknown, presumably it is a taxon escaped from gardens. Due to its moderate sensitivity to frost, its earlier spread was not observed. Our work, focuses on mapping the occurrence of the species, which is why we launched several campaigns. Summarizing the experience of one year, it can be concluded that the call was successful, but the collection and transmission of plant material to us, was of rather low-intensity. We plan to launch another awareness-raising campaign this autumn as well.

BeaverMap, a citizen science program in the service of discovering the beaver-made landscape alteration

Erika Juhász[1,2], Marianna Biró[1]

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[2] National Laboratory for Health Security, HUN-REN Centre for Ecological Research, Budapest, Hungary

Beavers are ecosystem engineer species that have the potential to greatly transform streams and floodplains. Their activity has significant effects in terms of both nature and people. The BeaverMap (HódTérkép) citizen science program was launched in 2021. This program aims to collect not only beaver occurrence data, but also local experiences and perceptions about the impacts of the species. BeaverMap data help us to refine the distribution map of the Hungarian beaver population, explore beaver-made wetlands with high conservation value, and understand human-beaver conflicts. There is a need for well-thought-out management of the species' effects in several regions of the country. By understanding opinions of our informants and exploring the knowledge of these people, we can contribute to conflict mitigation projects and to the protection of the species' beneficial effects on biodiversity and water retention.
Funding: We wish to express our gratitude for the support of the National Laboratory for Health Security (RRF-2.3.1-21-2022-00006), Centre for Ecological Research, Budapest, Hungary.

Bats and Solar Panels: A Global Initiative for Citizen-Science-Based Research

SÁNDOR ZSEBŐK

HUN-REN Centre for Ecological Research, Vácrátót, Hungary

The proliferation of photo-voltaic solar power systems represents a dominant global trend, with solar panels being installed across diverse terrestrial and aquatic habitats. Among others, the affected taxa include echolocating bats that rely on their sophisticated echolocation system for orientation and may attempt to drink from the surfaces or collide with them. Additionally, solar panels can affect not only bats but also their prey species, such as water-seeking and aquatic insect taxa, which are visually attracted to the horizontally polarizing surfaces of solar panels. Given the widespread deployment of solar panels, it is imperative to thoroughly investigate their ecological effects and explore global mitigation strategies. Our research aims to understand how bats exhibit drinking, collision, foraging, or commuting behaviour around solar panels. We also seek to explore the broader ecological consequences, examining how solar panels and their associated biotic environment influence the diversity and abundance of bats. In this presentation, we will discuss our citizen science-based approach to this initiative, emphasizing the collaborative involvement of the public in data collection.
Funding: Hungarian National Research, Development and Innovation Office (OTKA FK-146466)

Report from two Citizen Science projects from Germany with different levels of engagement

SARAH KIEFER[1], SOPHIA KIMMIG[1] , ANOUK TAUCHER[2]

[1]Leibniz Institute of Freshwater Ecology and Inland Fisheries, Germany
[2]SWILD - Urban Ecology & Wildlife Research Zürch, Switzerland

We will report about two projects that we are involved which illustrate different engagement levels in Citizen Science as well as the trade-offs that CS practitioners face.
In the project „ Stadtwildtiere Berlin (SWT), Urban wildlife Berlin“ people report animal sightings in and around Berlin using an interactive map in an App or on a website (berlin.stadtwildtiere.de). Uploaded pictures or videos of animals, tracks, nests, remnants…enable a quality proof of the entries. SWT is an international project with partners in Switzerland and Austria. All partners use the same corporate design and share one joint data base which allows for comparisons between countries, cities, species and much more.
In the project „Species protection through environmental friendly lighting“ new insect friendly street lights were developed in a transdisciplinary approach with ecologists, physicists and a luminaire manufacturer. Citizen scientists engage in insect sampling (emptying and hanging of the traps) and insect identification.
Funding: the project AuBe is funded: Gefördert im Bundesprogramm Biologische Vielfalt durch das Bundesamt für Naturschutz mit Mitteln des Bundesministeriums für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz

Biodiversity monitoring: by specialists, volunteers, or both?

OLIVÉR VÁCZI

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Biodiversity monitoring implies the long-term observation of indicator species and communities. The Hungarian Biodiversity Monitoring System (HBMS) was built on the expert recommendations of many ecologists in the late 1990s. Standard monitoring schemes were designed and have being implemented by experts since then (in more than 20 groups of components). Citizen science based WIldWatcher (Vadonleső) Programme (WWP) have been collected 14 300 validated distribution data of 20 selected species since 2014. WWP supports the operation of HBMS, but – as many citizen science projects – does not produce standard monitoring data. HBMS European Ground Squirrel Monitoring Programme has a standard burrow-entrance counting method, which can be evaluated without special knowledge. The Programme is running by the supervision of nature conservation experts since 2000 and show a significant decrease of the species in Hungary. To extend human capacities we developed a mobile application, which guide the volunteer through the whole monitoring process. In this well-designed system, non-professional volunteers can independently provide data suitable for standard biodiversity monitoring, since 2022.

Open science-based pollinator monitoring

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Although the global decline in pollinator abundance and diversity has significant environmental and economic consequences, the complexity of the factors involved makes it difficult to address the problem. To make meaningful improvements, we need to understand the impact of local environmental conditions and changes on pollinator communities, and we also need appropriate social support. In our project, we plan to create a community-based research project that will manage the research process in a transparent way so that the research results can be widely used - from data collection to analysis and interpretation, working with people of all backgrounds, from school children to community volunteers to professionals. In this way, the project builds on broad-based social activism, complemented by professional data collection, to provide large-scale and comprehensive data analysis to support pollinator conservation efforts.

„Herptérkép”, the Hungarian Amphibian and Reptile Mapping Program and its unexpected consequences

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For the mapping of Hungarian herpetofauna, we launched a citizen science website in 2010. Since the widespread use of smartphones we developed free Android and IOS applications. As a promo we launched Amphibian and Reptile of the Year campaign in 2012. The campaign always introduces the selected species and reasoning for it, naming actual conservation challenges and potential solutions. These campaigns resulted in two direct conservation benefits within Budapest: selection of a new protected area for Fire salamanders and development of active protection tools for migrating frogs, creating surprising level of collaboration of locals.
Funding: Zöld Forrás - Hungarian Ministry of Agriculture

60 million data records - 50 years of BirdLife Hungary in the field of citizen science

PÉTER LOVÁSZI

MME BirdLife Hungary

The MME/BirdLife Hungary is a society founded in 1974, whose founding members were mainly external data collectors of the Hungarian Ornithological Institute (Madártani Intézet). MME has launched several data collection programs during this 50 years, not only on birds, but also on dragonflies, butterflies, amphibians, reptiles, and mammals. Our larger databases contain more than 60 million data records (the majority was collected by volunteers), some of them connected to international databases. The presentation introduces the most important databases, their structure, the issue of data validation, making data public, motivation of volunteers and recruiting new volunteers.

Strengths and challenges of nature conservation citizen science projects in Hungary

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Despite the fact that there are already a few nature conservation citizen science (NCCS) initiatives in Hungary, no research has been conducted to analyze them. Drawing from interviews with project managers of NCCS projects in Hungary, we provide an overview of the strengths points that contribute to project managers' successful experiences when leading their NCCS projects, as well as the challenges they have encountered. The majority of interviewees agreed that the longevity of the project, the participants' commitment and the actual use of data, are considered indicators of successful NCCS initiatives. Collaboration between projects and institutions affiliation was a key element of project strength, while the most commonly mentioned challenge was the lack of budget for project improvements (e.g., maintaining full-time staff, web-app developments, and events to engage people). Our findings provide insights for NCCS project leaders to make pre-planning decisions based on the reality of NCCS initiatives in Hungary. Keywords: Citizen science, nature conservation, Hungary

Prospects of university students to participate in citizen science - a case study

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University students to be actively involved in citizen science is of primary importance. A preliminary study was completed in the Hungarian University of Agriculture and Life Sciences involving students who already took or just are taking the course of Human Ecology to assess their views and the conditions helping them to participate in such a program. Results and prospects will be discussed in this presentation, and/or in a workshop.

In the wake of disappearing water - user engagement in the DRYRivERS project

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The DRYRivERS is a citizen science project with mostly European coverage, which rely on the cooperation of the civilians in monitoring the status of increasingly drying smaller streams by an easy-to-use mobile phone application. In our talk, above a brief introduction to the project and the mobile app, we primarily present our diverse efforts to acquire, convince and retain users (gamification: level-up, badging, scoring, challenges), outline the measurable impact of our marketing activities on the number of active users, as well as provide a preliminary insight into data utilization through various academic, civil sector, or public administration examples.
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