

Curriculum vitae

Balázs Deák

Scientific and Professional Career

- 2020– Scientific advisor (equivalent to full professor), 'Lendület' Seed Ecology Research Group
- 2015–2019 Research fellow then assistant professor, University of Debrecen, Ecological Department
- 2015–2019 Research fellow, MTA-DE Biodiversity and Ecosystem Services Research Group, University of Debrecen, Ecological Department
- 2012–2013 Marie Curie fellow, Change Habitats2 FP7 project
- 2006–2012 Ecologist and project manager at Hortobágy National Park Directorate

Current Research Topics / Expertise

Grassland biodiversity; Ecology of fragmented and isolated habitats; Biodiversity maintained by ancient burial mounds; Effects of landscape and local environmental factors on the biodiversity of dry semi-natural grasslands; Effects of small scale environmental heterogeneity on the species composition of grasslands; Grassland restoration and management; Prescribed burning and fire ecology; Succession and vegetation dynamics

Scientometrics

Total impact factor: 264.306

H-index on Google Scholar: 32 Citations on Google Scholar: 3 889 Author of 128 scientific papers (89 papers in WoS-indexed journals), two books and 21 book chapters.

Grants and awards

- 2020 - Book publishing grant of the Hungarian Academy of Sciences
- 2018 - Book publishing grant of the Hungarian Academy of Sciences
- 2018 - New National Excellence - Bolyai Plus post-doctoral grant
- 2017- Grant of the New National Excellence Program
- 2016- Bolyai János Scholarship of the Hungarian Academy of Sciences
- 2015- International Conference Grant of the Hungarian Academy of Science 2015 (SER 2015, Montpellier)
- 2015 Campus Hungary Mobility Grant (Germany, Austria)
- 2012-13 Marie Curie research grant (Change Habitats2 FP7-es project, Grant Agreement Number: 251234)
- 2014 International Conference Grant of the Hungarian Academy of Science 2014 (EDGG 2014, Tula)
- 2011 Best LIFE Nature project 2010 (coordinator of botanical monitoring)

Participation in scientific research projects

- 2020-2024: 'Taxonomic, trait and phylogenetic diversity of grassland plant communities in fragmented landscapes' (NKFI FK 135329, principal investigator)
- 2018-2020: 'The role of habitat and landscape factors in grassland community assembly' (NKFI KH 130338, principal investigator)
- 2017-2021: 'Plant diversity in fragmented rural landscapes – Linear elements and human-mediated dispersal' (NKFI FK 124404; senior researcher)
- 2015-2018: 'Testing environmental and landscape factors as drivers of diversity in dry grassland fragments' (OTKA PD 115627, principal investigator)
- 2014-2015: Deutsche Bundesstiftung Umwelt; 'Pro-SEED - Large-scale grassland restoration: the use of establishment windows and high diversity seeding by the knowledge transfer of regional seed propagation to Hungary' (research fellow)
- 2013-2014: Internal Research Grant of the University of Debrecen 'Propagule and microsite limitation in grassland dynamics by seed addition and biomass removal experiments' (participant)
- 2012-2013: 'Change Habitats2' FP7 project (Grant Agreement Number: 251234, research fellow)
- 2011-2013: KEOP Project; 'Az INSPIRE irányelv bevezetése és gyakorlati alkalmazása az e-környezetvédelem területén' (Grant Agreement Number: KEOP-6.3.0/2F/09-2010-0012, participant)

Participation in scientific and social activities

- Member of the scientific committee of the European Congress of Conservation Biology 2022
- Chair and organiser of the "Remote sensing in conservation monitoring Special Session in the SER 2016 conference (Freising, 22-26, August, 2016)
- Organising and chair of the 'Large-scale grassland restoration: high diversity seeding and knowledge transfer of regional seed propagation to Hungary' workshop (Hortobágy, 9-10, April 2015) supported by the Deutsche Bundesstiftung Umwelt
- Taking part in the organisation of the field workshop of the 'Nature that counts - Monitoring biodiversity' EUROPARC conference (9-13, October, 2013)
- President of the Salvia Environmental and Nature Protection Association; organising and giving lectures for students, coordinating grassland restoration and management projects on kurgans, coordinating volunteers
- Member of the IUCN CEM Holarctic Steppe specialist group

Editorial and reviewer activity

- Associate editor at *Frontiers in Ecology and Evolution*, section Conservation and Restoration
- Guest editor of the EDGG Special Feature in the journal *Tuexenia* (2019- present day)
- Guest editor in chief of the 12th and 13th EDGG Special Feature in the journal *Tuexenia* (2017-2018)
- Guest editor of the 11th EDGG Special Feature in the journal *Tuexenia* (2016)

- Reviewer in Journals: Landscape Ecology, Biological Conservation, Journal of Ecology, Ecological Engineering, Acta Oecologica, Biologia, Restoration Ecology, Ecological Indicators, Plant Biosystems, Agriculture, Ecosystems and Environment, Applied Vegetation Science, Land Degradation and Development, Plant Ecology, Nordic Journal of Botany, Community Ecology, Frontiers in Ecology and Evolution, Conservation Science and Practice, Trees, Forests and People, Hacquetia

Co-ordinator in nature conservation projects

- Complex habitat rehabilitation of the Central Bereg Plain, Northeast Hungary (LIFE04 NAT/HU/000118), project co-ordinator.
- Grassland restoration and marsh protection in Egyek-Pusztakócs LIFE project (LIFE04 NAT/HU/000119), botanical monitoring. The project was awarded by the Best LIFE project in 2010
- Restoration and management of forests and wooded pastures in the HNPD (KEOP-7.3.1.2/09-2010-0004), co-ordinator.
- Nature conservational developments in the area of the Egyek-Pusztakócs-marshland (KEOP-3.1.2/2F/09-11-2011-0009), co-ordinator.
- Moderating the negative effects of linear infrastructures (highways, electric wires) in the HNPD (KEOP-3.1.2/2F/09-2010-0013), co-ordinator.

Educational expertise

- Lecturer and supervisor at the University of Debrecen and the Juhász Nagy Pál Doctorate School.
- PhD courses: Conservation in practice I-II. Role of habitat islands in nature conservation
- MSc courses: Conservation biology, Ecology in nature conservation, Ecological modelling
- BSc courses: Ecology in nature conservation, Theoretical ecology, Conservation biology

Ten most important publications from the past five years

Deák, B., Bede, Á., Rádai, Z., Tóthmérész, B., Török, P., Nagy, D.D., Torma, A., Lőrinczi, G., Nagy, A., Mizser, S., Kelemen, A., Valkó, O. (2021): Different extinction debts among plants and arthropods after loss of grassland amount and connectivity. *Biological Conservation* 264: 109372.

Deák, B., Báthori, F., Lőrinczi, G., Végvári, Z., Nagy D., D., Mizser, S., Torma, A., Valkó, O., Tóthmérész, B. (2021): Functional composition of ant assemblages in habitat islands is driven by habitat factors and landscape composition. *Scientific Reports* 11: 20962. 4

Deák, B., Kovács, B., Rádai, Z., Apostolova, I., Kelemen, A., Kiss, R., Lukács, K., Palpurina, S., Sopotlieva, D., Báthori, F., Valkó, O. (2021): Linking environmental heterogeneity and

plant diversity: the ecological role of small natural features in homogeneous landscapes. *Science of the Total Environment* 763: 144199.

Deák, B., Rádai, Z., Bátori, Z., Kelemen, A., Lukács, K., Kiss, R., Maák, I.E., Valkó, O. (2021): Ancient burial mounds provide safe havens for grassland specialist plants in transformed landscapes – A trait-based analysis. *Frontiers in Ecology and Evolution* 9: 619812.

Deák, B., Rádai, Z., Lukács, K., Kelemen, A., Kiss, R., Báthori, Z., Kiss, P.J., Valkó, O. (2020): Fragmented dry grasslands preserve unique components of species and phylogenetic diversity in agricultural landscapes. *Biodiversity and Conservation* 29: 4091-4110.

Deák, B. & Valkó, O., Tóth, C.A., Botos, Á., Novák, T. (2020): Legacies of past land use challenge grassland recovery – An example from dry grasslands on ancient burial mounds. *Nature Conservation* 39: 113-132.

Deák, B., Valkó, O., Nagy D. D., Török, P., Torma, A., Lőrinczi, G., Kelemen, A., Nagy, A., Bede, Á., Mizser, Sz., Csathó, A.I., Tóthmérész, B. (2020): Habitat islands outside nature reserves – threatened biodiversity hotspots of grassland specialist plant and arthropod species. *Biological Conservation* 241: 108254.

Deák, B. (2020): Nature and Culture: The Role of Ancient Burial Mounds in the Conservation of Eurasian Steppe Vegetation. *Ökológiai Kutatóközpont, Tihany*, pp. 172.

Deák, B., Valkó, O., Török, P., Kelemen, A., Bede, Á., Csathó, A.I., Tóthmérész, B. (2018): Landscape and habitat filters jointly drive richness and abundance of grassland specialist plants in terrestrial habitat islands. *Landscape Ecology* 33: 1117-1132.

Deák, B., Tölgyesi, Cs., Kelemen, A., Bátori, Z., Gallé, R., Bragina, T.M., Abil, Y.A., Valkó, O. (2017): The effects of micro-habitats and grazing intensity on the vegetation of burial mounds in the Kazakh steppes. *Plant Ecology and Diversity* 10: 509-520.