



CENTRE FOR ECOLOGICAL RESEARCH

<https://ecolres.hu/en>

- **Founded in 2012**
- **Located in Budapest, Vácrátót and Debrecen**
- **Member of the Eötvös Loránd Research Network**
- **Hungarian Academy of Sciences Centre of Excellence**
- **Institutional membership in 6 international organizations**
- **233 employees of which 140 researchers**
- **297 publications (2020)**
- **6789 citations (2020)**
- **Impact Factor: 626.4 (2019)**

The **Centre for Ecological Research** is open to further joint research activities at international level.

For any additional information on possible international cooperation please contact Mr. Domonkos M. NAGY at m.nagy.domonkos@ecolres.hu.

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The **Centre for Ecological Research (CER)** is the largest ecological institute in Hungary, and therefore it is a dedicated advisor to the nation on issues related to biodiversity and ecosystems, and also responsible for supporting the development of ecology in Hungary.

The Centre for Ecological Research was **established on January 1, 2012** based on predecessor institutions (such as the Institute of Botany founded in 1952 and the Danube Research Station established in 1957), after the reorganization of the network of research institutes of the Hungarian Academy of Sciences (HAS). At the present there are two ecological institutes: one for mostly terrestrial ecological research (Institute of Ecology and Botany), and one for aquatic research activities (Institute of Aquatic Ecology), both studies processes at local, regional and global scale as well. The third institute of the CER, also the newest one, is the Institute of Evolution, established in the summer of 2019, based on the 30 years old internationally recognized theoretical evolutionary biology school led by Prof. Eörs Szathmáry. The Centre for Ecological Research was transferred to the Eötvös Loránd Research Network on August 1, 2019.

The **mission** of the Centre is to carry out high quality research on biodiversity and ecosystems, including both the freshwater and the terrestrial habitats, and the cultivation of



evolutionary basic and applied research at all relevant levels of the organization.

Research fields

The institution mainly hosts ecological and evolutionary biology research, but many studies are related to, for example, the effect of agriculture and forestry on biodiversity, traditional ecological knowledge, water utilization, ecological and evolutionary dynamics of emerging infectious diseases, evolutionary processes (biological, cultural, technological and economic), conceptual and dynamic analysis and other interdisciplinary topics.

Research institutes

- Institute of Evolution
- Institute of Ecology and Botany
- Institute of Aquatic Ecology

Human resources

In 2021 the average number of employees is 233, of which the number of researchers is 140. 45% of the researchers are women. One is a Member of the Hungarian Academy of Sciences, 17 hold the title of Doctor of the Hungarian Academy of Sciences, and 74 have a PhD. The rate of young researchers (under 35) is about 40%.

Institutional memberships

- Botanic Gardens Conservation International
- European Native Seed Conservation Network
- International Long-Term Ecological Research Network
- ALTER-Net: A Long-Term Biodiversity, Ecosystem and Awareness Research Network
- Biodiversity and Ecosystem Services Network
- Science for the Carpathians network (S4C)

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Some of the most important research topics and articles of the Centre in 2020

- Research on the ecology and evolution of parasites and pathogens
- Investigation of major transitions in evolution
- Evolution and learning; Darwinian neurodynamics
- Basics of ecological organization - data-driven research, „big data” analysis
- Research on global environmental challenges
- Ecological foundations of the harmonious coexistence of nature and society
- Ecological-hydrobiological research and high-resolution monitoring of the Danube river and its tributaries
- Regional and local solutions in environmental and nature protection of larger lakes and on wetlands unique in the Carpathian Basin
- 21st century challenges for aquatic ecosystems
- Adamski, P., Eleveld, M., Sood, A., Kun, Á., Szilágyi, A., Czárán, T., & Szathmáry, E. (2020). From self-replication to replicator systems en route to de novo life. *NATURE REVIEWS CHEMISTRY*, 4(8), 386–403. DOI: 10.1038/s41570-020-0196-x
- Bede-Fazekas, Á., & Somodi, I. (2020). The way bioclimatic variables are calculated has impact on potential distribution models. *METHODS IN ECOLOGY AND EVOLUTION*, 11(12), 1559–1570. <http://doi.org/10.1111/2041-210X.13488>
- Lovas-Kiss Á., Vincze O., Löki V., Pallér-Kapusi F., Halasi-Kovács B., Kovács G., Green A.J. & Lukács B.A. (2020). Experimental evidence of dispersal of invasive cyprinid eggs inside migratory waterfowl. *PNAS*, 117(27), 15397–15399. <https://doi.org/10.1073/pnas.2004805117>

