

ZSÓFIA RUSCSÁK



National Academy of Scientist Education, 1st year

Eötvös Lorand University
Faculty Science, Biology 2nd year

YEAR OF BIRTH

1999

FORMER SZENT-GYÖRGYI PUPIL

no

RESEARCH UNIT

Eötvös Lorand University
Faculty Science

SZENT-GYÖRGYI MENTOR

Dávid Herczeg

JUNIOR MENTOR

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SPECIALIZATION

Evolutionary Ecology,
Ecotoxicology

SECONDARY SCHOOL

Patrona Hungariae
Általános Iskola,
Gimnázium, Kollégium és
Alapfokú Művészeti Iskola

NAME OF TEACHER

Éva M. Zsófia Leányvári,
Borbála Márialigeti

LANGUAGES

English/C2

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

We are currently in the midst of an extinction crisis, often referred to as the sixth mass extinction wave. Amphibians, as one of the most diverse vertebrate groups, are profoundly affected, experiencing a rapid global decline. Human-induced environmental changes significantly contribute to this decline by exposing amphibian breeding ponds to plastic pollution and pathogens. Plastics can enter aquatic environments as microplastics (sized between 1 mm and 1 μ m) while, infectious diseases, such as ranaviruses, are facilitated by human-mediated pathogen spread across previously unaffected regions via urbanisation. Moreover, recent studies have shown that microplastics can absorb various agents, including viral pathogens on their surface, increasing the risk they pose. These findings suggest that if microplastic particles adsorb ranaviruses, they could potentially increase disease risk and exacerbate outcomes where ranaviruses and microplastics co-occur. Yet, our understanding of their combined effects in natural habitats, including urban and agricultural landscapes, remains limited. Therefore, through extensive field studies and laboratory-based experiments, we aim to elucidate these interactions and investigate the potential role of microplastics as vectors for pathogen transmission in aquatic environments.

AMBITIONS AND CAREER GOALS

My goal is to deepen my knowledge in the fields of ecology and evolutionary biology and to conduct impactful research that serves as a foundation for biodiversity conservation. Throughout my work, I intend to prioritize science communication, making scientific findings accessible to the public to foster environmental awareness and promote the active protection of wildlife.

HONORS AND PRIZES

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PUBLICATIONS

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