

GÁBOR HERCZEG



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RESEARCH AREA

The main scientific fields I research are evolutionary biology, behavioral ecology, and conservation biology. I have spent a long time doing basic research (investigating the causes and consequences of intraspecific phenotypic variation, with a particular focus on behavioral variation), but in recent years I have increasingly focused on similar topics from a conservation perspective. Currently, I am mainly studying the effects of environmental microplastic contamination and climate change, as well as the impact of captivity breeding and rearing conditions on the success of reintroductions into the wild. I work with a relatively large number of model species, ranging from the common pill bug (*Armadillidium vulgare*) to the Cyren's rock lizard (*Iberolacerta cyreni*). I employ both field studies and laboratory observations, using molecular methods where necessary.

TECHNIQUES AVAILABLE IN THE LAB

Depending on the chosen field, students joining the research can acquire various elements of fieldwork, such as measuring and recording environmental variables, observing, capturing, and measuring wild animals. In addition, through laboratory-based experiments, they can learn how to design and carry out common garden experiments, measure the phenotypic traits (morphology, life history, behavior) of the studied individuals—with particular emphasis on analyzing behavior-recording videos—and perform modern statistical analyses of the collected data.

SELECTED PUBLICATIONS

Horváth, G., Herczeg, D., Kovács, B., Péntek, Á., Kaczur, B., & **Herczeg, G.** (2025). Microplastic uptake with food increases risk-taking of a wide-spread decomposer, the common pill bug *Armadillidium vulgare*. **Environ Pollut** **374**: 126220.

Kralj-Fiser, S., Debes, P.V., Fiser, Z., Horváth, G., Fiser, C., **Herczeg, G.** (2025). Linking behavioural variance of environmental heterogeneity: variance decomposition in surface vs. cave isopod populations. **Funct Ecol** **39**(3): 737-755.

Horváth, G., Sos, T., Bóné, G., Lőrincz, C. E., Pap, P. L., & **Herczeg, G.** (2024). Integrating behavioural thermoregulatory strategy into the animal personality framework using the common lizard, *Zootoca vivipara* as a model. **Sci Rep** **14**(1): 14200.

Horváth, G., Garamszegi, L. Z., & **Herczeg, G.** (2023). Phylogenetic meta-analysis reveals system-specific behavioural type-behavioural predictability correlations. **R Soc Open Sci** **10**(9): 230303.

Herczeg, G., Nyitrai, V., Balázs, G., Horváth, G. (2022). Food preference and food type innovation of surface vs. cave-dwelling waterlouse (*Asellus aquaticus*) after 60 000 years of isolation. **Behav Ecol Sociobiol** **76**(1): 1.