Mgr. Anna Mrázová, Ph.D.
Maiden name: Anna Humlová (used in earlier publications and conferences)
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EMPLOYMENT

- **17/08/2020 – ongoing:** Biology Centre CAS, Institute of Entomology, Postdoctoral researcher
- **28/02/2020 – 16/08/2022:** Biology Centre CAS, Institute of Entomology, Associate researcher
- **2021 – 2023:** Faculty of Science, University of South Bohemia, Consultant, Data manager
- **10/03/2016 – 28/02/2020:** Biology Centre CAS, Institute of Entomology, Data collection manager (LifeWebs Project)
- **2017 – 2018:** Faculty of Science, University of South Bohemia, Associate researcher
- **2015 – 2016:** CzechGlobe, Global Change Research Institute of the Czech Academy of Sciences, Technician

POSTDOC

- **01/08/2023 – 04/08/2025:** Postdoctoral researcher, INRAE UMR Biogeco 1202, BioDiv team (Bordeaux, France); PI of the METAP Project; Host: Dr. Bastien Castagneyrol

EDUCATION

- **19/01/2017 – 16/08/2022:** PhD study at University of South Bohemia, specialization Zoology (Thesis: Interactions between plants, herbivorous insect, and predators: mechanisms and ecological importance, supervisors: Dr. Katerina Sam, Prof. Vojtěch Novotný).
  Main outcomes: I demonstrated that insectivorous birds respond to plant chemical cues and can contribute to plant defence via bottom-down control; combined field and aviary experiments revealed the ecological relevance of avian olfaction and its role in tri-trophic interactions.
- **20/01/2015 – 18/01/2017:** Master study at University of South Bohemia, specialization Zoology (Thesis: Can insectivorous birds sense plants calling for help?; supervisor: Dr. Katerina Sam)
- **01/10/2011 – 19/01/2015:** Bachelor study at University of South Bohemia, specialization Zoology (Thesis: Interspecific interactions of short-toed treecreeper and European treecreeper; supervisor: Dr. Petr Veselý)

INTERNSHIPS

- **2017, 2018** (one month each): Prof Manfred Ayasse, Department of Evolutionary Ecology and Conservation Genomics, Ulm, Germany; GC-MS analyses
- **2018, 2019** (one month each): Dr. Luisa Amo, Department of Evolutionary Ecology, National Museum of Natural Sciences, Madrid; experiments planning and conducting

PUBLICATIONS Google Scholar: 21 articles, 304 citations, H index 9 https://orcid.org/0000-0002-9268-0896 / ResearcherID: R-5253-2018. * indicates first or senior authorship contribution.

Mononen, T., Hardwick, B., ..., **Mrazova, A.**, ..., Ovaskainen, O. (2025). An active ensemble classifier for detecting animal sequences from global camera trap data. *Methods in Ecology and Evolution*, Accepted on the 17th of July 2025.

Somervuo, P., Roslin, T., ..., **Mrazova, A.,** ..., & Mata, V. A. (2025). Human contributions to global soundscapes are less predictable than the acoustic rhythms of wildlife. *Nature Ecology & Evolution*, 1-14.

Valdés-Correcher, E., Kadiri, Y., Bourdin, A., **Mrazova, A.**, Bălăcenoiu, F., Branco, M., ... & Castagneyrol, B. (2025). Effects of climate on leaf phenolics, insect herbivory, and their relationship in pedunculate oak (*Quercus robur*) across its geographic range in Europe. *Oecologia*, *207*(4), 1-13. 10.1007/s00442-025-05696-2.

***Mrazova, A.**, Sam, K., Hilker, M., Rubene, D., Amo, L., Mäntylä, E. (2025). Feathered noses: methodological insights into understanding avian olfaction and foraging. *Animal Behaviour*, 123075.

*Schillé, L., Plat, N., Barbaro, L., Jactel, H., Raspail, F., Rivoal, J. B., ... & **Mrazova, A.** (2025). Camera traps unable to determine whether plasticine models of caterpillars reliably measure bird predation. *PloS one*, *20*(3), e0308431.

Schillé, L., Valdés-Correcher, E., Archaux, F., Bălăcenoiu, F., Bjørn, M. C., Bogdziewicz, M., ... **Mrazova, A.**, ... & Castagneyrol, B. (2024). Decomposing drivers in avian insectivory: Large-scale effects of climate, habitat and bird diversity. *Journal of Biogeography*. 10.1111/jbi.14808.

Sam, K., **Mrazova, A.**, Houska Tahadlova, M., Kollross, J., & Maraia, H. (2024). Impact of Predators on Arthropod Herbivores and Herbivory along Mountain Ranges on Islands Versus Mainland. In *Ecology and Evolution of Plant-Herbivore Interactions on Islands* (pp. 199-217). Cham: Springer International Publishing.

***Mrazova, A.**, Houska Tahadlová, M., Řehová, V., & Sam, K. (2023). The specificity of induced chemical defence of two oak species affects differently arthropod herbivores and arthropod and bird predation. *Arthropod-Plant Interactions*, *17*(2), 141-155.

Mithöfer, A., Riemann, M., Faehn, C. A., **Mrazova, A.**, & Jaakola, L. (2022). Plant defense under Arctic light conditions: Can plants withstand invading pests?. *Frontiers in Plant Science*, *13*, 1051107.

Sam, K., Tahadlova, M., Freiberga, I., **Mrazova, A.**, Toszogyova, A., & Sreekar, R. (2022). The impact of ants and vertebrate predators on arthropods and plants: a meta-analysis. *bioRxiv*, 2022-06.

Romero, G., Gonçalves-Souza, T., Roslin, T., Novotny, V., ..., **Mrazova, A.**, ... & Koricheva, J. (2022). Climate variability and aridity modulate the role of leaf shelters for arthropods: a global experiment. *Global Change Biology*. 10.1111/gcb.16150.

Valdés-Correcher, E., Popova, A., Galmán, A, Prinzing A., ... **Mrazova, A.**, ..., & Castagneyrol, B. (2022). Herbivory on the pedunculate oak along urbanization range in Europe: effects of local forest cover and insect feeding guild. *Ecology and Evolution*, 10.1002/ece3.8709.

Pereira, C., Novais, S., Barbosa, M., Negreiros, D., ..., **Mrazova, A.**, ... & Cornelissen, T. (2022). Subtle structures with not-so-subtle functions: a dataset of arthropod constructs and their host plants. *Ecology*, e3639.

Amo, L., **Mrazova, A.**, Saavedra, I. & Sam, K. (2022). Exogenous Application of Methyl Jasmonate Increases Emissions of Volatile Organic Compounds in Pyrenean Oak Trees, *Quercus pyrenaica*. *Biology*, 11(1), 84.

Valdés-Correcher, E., Moreira, X., Augusto, L., Barbaro, ..., **Mrazova, A.**, ... & Dobrosavljević, J. (2021). Search for top-down and bottom-up drivers of latitudinal trends in insect herbivory in oak trees in Europe. *Global Ecology and Biogeography*, 30 (3), 6 51-665.

Sam, K., Koane, B., Sam, L., **Mrazova, A.**, Segar, S., ... & Novotny, V. (2020). Insect herbivory and herbivores of Ficus species along a rain forest elevational gradient in Papua New Guinea. *Biotropica*, 52(2), 263-276.

Castagneyrol, B., Valdés-Correcher, E., Bourdin, A., Barbaro, L., ... **Mrazova, A.**, ... & Eötvös, C. B.(2020). Can School Children Support Ecological Research? Lessons from the Oak Bodyguard Citizen Science Project. *Citizen Science: Theory and Practice*, *5*(1).

***Mrazova, A.**, Sam, K., & Amo, L. (2019). What do we know about birds' use of plant volatile cues in tritrophic interactions? *Current opinion in insect science*, 32, 132-136.

***Mrazova, A.**, & Sam, K. (2019). Exogenous application of methyl jasmonate to *Ficus hahliana* attracts predators of insects along an altitudinal gradient in Papua New Guinea. *Journal of Tropical Ecology, 35(4), 157-164*.

***Mrazova, A.**, & Sam, K. (2018). Application of methyl jasmonate to grey willow (Salix cinerea) attracts insectivorous birds in nature. *Arthropod-Plant Interactions*, 12(1), 1-8.

Fayle, T. M., Sam, K., **Humlova, A.**, Cagnolo, L., & Novotny, V. (2016). The LifeWebs project: A call for data describing plant-herbivore interaction networks. *Frontiers of Biogeography*, 8(4).

CONFERENCES

Mrazova, A. (2025). Methods used in multitrophic interaction research: where we stand and what the future holds. *TreeDì–MultiTroph Conference, Leipzig, Germany* (13–17 October 2025, forthcoming). Invited keynote speaker.

Mrazova, A. (2024). On disentangling major plant defence theories along a large-scale productivity gradient. SFE^2 in Lyon. Oral presentation.

Mrazova, A. (2021). Might birds green an extensive agriculture? *Over the Horizon and for Mutual Acquaintance, Conference of Ph.D. students, University of South Bohemia*. Oral presentation.

Mrazova, A. (2021) Interactions between plants, herbivorous insect, and predators: mechanisms and ecological importance, *Conference of Ph.D. students of the department of Zoology, Faculty of Science, University of South Bohemia*. Oral presentation.

Mrazova, A., Sam K. (2017). The friendship between predators and plants alias importance of predatory vertebrates for plant performance. *Ecology across borders, Ghent*. Poster presentation.

Humlová A., Sam K. (2017). Vycítí hmyzožraví ptáci rostliny volající o pomoc? *Zoological days, Brno*. Oral presentation.

Humlová A., Bonny K., Markis P., Sam K. (2016). Tropical birds can smell trees calling for help along an elevational gradient: An experiment with chemically and manually induced herbivory. *Conference of Society for Tropical Ecology*. Oral presentation.

GRANTED RESEARCH PROJECTS

PEPR FORESTT mobility grant. 2025. SmarTREE: Smart Surveillance for Forest Biodiversity and Risk Monitoring: Autonomous monitoring of bird-insect interactions using smart cameras to assess forest structure effects on biocontrol in forest ecosystems. (PI: 7,862 EUR)

The Czech Science Foundation, PIF Outgoing. 2023 – 2026. No. 23-07045O. Tree defence strategies: why and how does the strength of bottom-up control vary along latitudinal gradient? (PI; 207,463 EUR)

Czech Academy of Sciences, Programme of Support of Promising Human Resources: Postdoctoral Researchers. 2022 – 2024. No. L200962302, The trade-off between constitutive and inducible defence in the genus *Salix* along the latitudinal gradient. (PI; 48,210 EUR)

Grant Agency of the University of South Bohemia. 2018 -2019. No. 078/2018/P. Importance of visual and chemical signals in tri-trophic systems. (PI; 13,500 EUR)

Student Grant Agency of the Faculty of Science, University of South Bohemia. 2013. Interspecific interactions of short-toed treecreeper and European treecreeper. (PI; 400 EUR)

AWARDS

Otto Wichterle Premium for outstanding early-career scientists, Czech Academy of Sciences, 2025.

Specialist board award for excellent work during PhD, Faculty of Science, University of South Bohemia, 2021.

Martina Roeselová Memorial Fellowship for PhD students and postdoctoral researchers caring for preschool children while actively pursuing a career in natural sciences at a university or a non-university research organisation in the Czech Republic, 2021.

Annual award for the best student's ethological publication, Czech and Slovak Ethological Society 2020; 2nd place.

TEACHING, MENTORING & OTHERS

- Students: University of South Bohemia – 3 Bachelor students
  University of Bordeaux – 1 master's student
- Teaching at the University of South Bohemia: Field ecology practical course, Field ornithology
- Coordinator of audio recordings in LIFEPLAN Global Project on one site in the Czech Republic
- Member of the Czech Society for Ornithology (CSO), license no. 1152, 2012 – present
- Popularisation lectures for the Faculty of Science, University of South Bohemia, Children's Camp
- Popularization lectures for INRAE Biogeco; Bordeaux high school students
- Certificate of qualification for university teaching at French universities - Population Biology and Ecology, 06/03/2025 – 05/03/2028
- Cofounder of a group developing innovative technologies for massive, effective, and accurate ecological sampling and analyses using passive monitoring (BioDiv, Biogeco, INRAE, France).
- Regular reviewing for peer-reviewed journals, including American Naturalist, Animal Behaviour, Global Journal of Ecology, and others.

SELECTED KEY PUBLICATIONS AND REFLECTIONS ON SCIENTIFIC PROGRESS

Mrazova, A., Sam, K., & Amo, L. (2019). What do we know about birds' use of plant volatile cues in tritrophic interactions? Current Opinion in Insect Science, 32, 132–136.

This was one of my first lead-author papers and marked a turning point in my scientific independence. I conceptualised the review topic and led the writing with only minor input from senior colleagues. The paper provided a timely synthesis of a previously underexplored topic: avian use of plant volatiles, and shaped future experimental directions, including my PhD research.

Mrazova, A., Houska Tahadlová, M., Řehová, V., & Sam, K. (2023). The specificity of induced chemical defence of two oak species affects differently arthropod herbivores and arthropod and bird predation. Arthropod-Plant Interactions, 17(2), 141–155.

In this paper, I took full responsibility for the data analysis and methodological decisions. It was the first time I confidently led the statistical design, based on critical reflection rather than compromise. The collaboration with a close colleague was particularly productive, and the results contributed to understanding how specific plant defences shape multitrophic interactions.

Schillé, L., Plat, N., Barbaro, L., Jactel, H., Raspail, F., Rivoal, J. B., ... & **Mrazova, A.** (2025). Camera traps unable to determine whether plasticine models of caterpillars reliably measure bird predation. PLOS ONE, 20(3), e0308431.

This study was initiated, coordinated, and completed by a team of early-career researchers, with me in the senior (last author) role. I supervised all stages of the work from hypothesis development and preregistration to manuscript submission. It was my first experience with a registered report, where the manuscript was accepted in principle based on the introduction and methodology prior to data collection. This format fostered rigorous experimental design and transparent reporting. The study marks a clear transition in my career from mentee to mentor, showcasing my ability to lead collaborative, methodologically robust ecological research that follows the FAIR principles of Open Science.

Valdés-Correcher, E., Popova, A., Galmán, A, Prinzing A., … **Mrazova, A.**, …, & Castagneyrol, B. (2022). Herbivory on the pedunculate oak along urbanization range in Europe: effects of local forest cover and insect feeding guild. Ecology and Evolution, 10.1002/ece3.8709.
I coordinated two European field sites for two years and contributed to synthesis discussions, providing ecological interpretation and validation. This paper, along with the broader "Tree Bodyguards" project it stems from, formed the direct conceptual and methodological foundation for my current METAP project and exemplifies my active role in large-scale, collaborative, multitrophic ecology.

Mononen, T., Hardwick, B., …, **Mrazova, A.**, …, Ovaskainen, O. (2025). An active ensemble classifier for detecting animal sequences from global camera trap data. Methods in Ecology and Evolution, Accepted on the 17th of July 2025.
I coordinated one of the key data collection sites (CZ). My participation in this project provided me with first-hand experience in managing, filtering, and pre-processing large-scale image datasets. It offered valuable insights into the development and evaluation of machine learning methods for wildlife image classification. This experience laid part of the groundwork for my subsequent independent work on automated ecological monitoring.