

## PIOTR SZEFER

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## RESEARCH INTERESTS

Complex interactions in food webs and ecological networks, focusing on trait-mediated interactions, evolution, and their impact on food web structure, metapopulation dynamics, and ecosystem functioning. Expertise in numerical analyses, statistics, dynamical modeling, and ecological simulations.

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## EDUCATION

### Ph.D. in Entomology (2014 – 2022)

South Bohemian University, Czech Republic

Advisor: Vojtech Novotny

Dissertation: *Fungi, Herbivores, and Predators as Determinants of Secondary Forest Succession*

### M.S. in Environmental Biology (2008 – 2010)

Kazimierz Wielki University, Poland

Advisor: Józef Banaszak

Thesis: *Pollinating Insects of Sępoleńska Flatland: Diversity and Community Composition*

### B.S. in Biology (2005 – 2008)

Kazimierz Wielki University, Poland

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## RESEARCH EXPERIENCE

### University of South Bohemia (2014 – Present)

- Designed large-scale manipulative experiments in Papua New Guinea on the effects of fungi, herbivores, and predators on tropical forest succession (*Szefer et al. 2020, J. Ecol.*).
- Examined weak effects of birds, bats, and ants on arthropod prey in early successional forests (*Szefer et al. 2022, Ecology*).
- Studied dominant insect species in tropical rainforest food webs with Tom Fayle and Vojtech Novotny.

### Université de Montréal – Poisot Lab (2018)

- Developed functions for generating structural food web models in Julia.
- Collaborated on *EcologicalNetworks.jl* package (*Poisot et al. 2019, Ecography*).

### Kazimierz Wielki University (2017 – Present)

- Investigated wild bee assemblages in postindustrial habitats and urban landscapes (*Twerd et al. 2021, Urban Forestry & Urban Greening*).

### Binatang Research Center – Papua New Guinea (2015 – 2018)

- Led fieldwork on secondary forest regeneration for ExxonMobil's PNG LNG Pipeline Project.
- Analyzed plant community composition using ordination methods.

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## SELECTED PUBLICATIONS

- **Szefer, P., Molem, K., Sau, A., Novotny, V.** (2020). Impact of pathogenic fungi, herbivores, and predators on secondary succession of tropical rainforest vegetation. *J. Ecol.*, **108(5)**, 1978–1988.
- **Szefer, P., Carmona, C. P., Chmel, K., et al.** (2017). Determinants of litter decomposition rates in a tropical forest. *Oikos*, **126(8)**, 1101–1111.
- **Szefer, P., et al.** (2022). Weak effects of birds, bats, and ants on arthropod prey in tropical forest gaps. *Ecology*, **103(6)**, e3690.
- **Poisot, T., Bélisle, Z., Hoebeke, L., Stock, M., Szefer, P.** (2019). EcologicalNetworks.jl: Analysing ecological networks of species interactions. *Ecography*, **42(11)**, 1850–1861.
- **Twerd, L., Sobieraj-Betlińska, A., Szefer, P.** (2021). Roads, railways, and power lines: Are they crucial for bees in urban woodlands? *Urban Forestry & Urban Greening*, **61**, 127120.

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## TEACHING EXPERIENCE

**Kazimierz Wielki University** (2010–2014)

- Designed and taught courses: *Ecology, Community Ecology, Methods in Field Ecology, Conservation Biology*.

**South Bohemian University** (2017)

- Teaching Assistant – *Community Ecology* (EstimateS software, biodiversity indices, dissimilarity metrics).

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## SKILLS

- **Programming & Data Analysis:** R, Python, Julia, C++, Git, Linux, LaTeX, Markdown
- **Quantitative Methods:** Bayesian statistics, GLMMs, food web modeling, ordination techniques
- **Fieldwork:** Manipulative experiments, biodiversity monitoring, entomological surveys

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## SERVICE & OUTREACH

- **Reviewer** for *Ecosphere, Biotropica, Methods in Ecology and Evolution, Journal of Ecology, Ecology Letters*.

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## HONORS & AWARDS

- **Dean's Award** for Best M.S. Thesis (2010).
- **Travel Awards** for:
  - Geometric Morphometrics Workshop, Telč (2011).
  - Bayesian GLMM Course, Perth (2015).
  - Agent-Based Models Workshop, Capellades (2018).