

Curriculum vitae – Assoc.Prof. Ing. MgA. David Boukal, Ph.D.

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RESEARCH FOCUS

My research group combines empirical and theoretical approaches to understand the mechanisms and processes that shape biodiversity and underlie community structure in aquatic habitats, with emphasis on various human impacts on aquatic ecosystems.

Freshwater ecology: community assembly, species interactions, phenotypic plasticity, life histories, conservation; effects of climate change, pollutants and other stressors on macroinvertebrates and fish.

Methods: field surveys; mesocosm and long-term field experiments; laboratory experiments (predator-prey interactions, respirometry, behavioural assays, phenotypic plasticity); data analyses using modern statistical methods in R, numerical simulations of dynamical systems (C, R, Mathematica).

EMPLOYMENT

- Since 2009** University of South Bohemia (hereafter USB), Faculty of Science, Dept of Ecosystem Biology (full time since 2012; 2009–Nov 2012: researcher / lecturer; since Dec 2012: Assoc. Prof.; 2014–2018: head of department)
- 2005–2009** Institute of Marine Research, Bergen, Norway (postdoc, EU Marie-Curie Research Training Network *FishACE* and European Research Network *FinE*, 39 months, with Prof. M. Heino)
- 2004** Universiteit van Amsterdam, Institute for Biodiversity and Ecosystem Dynamics, Netherlands (postdoc, 7 months, with Prof. A. de Roos)
- 2002–2004** Silesian University in Opava, Faculty of Philosophy and Science, Institute of Creative Photography, CZ (external lecturer, part time)
- 1997–2005** USB, Faculty of Science, Dept of Biology, Č. Budějovice (researcher, part time)
- Since 1997** Czech Academy of Sciences, Biology Centre, Institute of Entomology (1997–2002: PhD student; 2002–2013: researcher; since 2014: head of Laboratory of Aquatic Insects and Relict Ecosystems; full time: 1997–2011 / part-time: since 2012 / unpaid leave: Dec 2005–Feb 2009)
- 1995–1997** Civil service, Jírovcova High school, Č. Budějovice (18 months)

EDUCATION

- 1989–2002** Applied mathematics (Ing. = MSc. in 1994, Ph.D. in 2002), Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University (FNSPE CTU), Prague.
- 1996–2002** External studies in photography (MgA. in 2002), Institute of Creative Photography, Faculty of Philosophy and Science, Silesian University in Opava (CZ).

PUBLICATIONS

First author/co-author of 57 papers in IF journals and 2 papers in conference proceedings listed by WoS, 7 peer-reviewed papers in non-IF journals, 20 book chapters and supplements, and 22 other publications. WoS: 2293 citations (~5% self-cites), h-index = 24.

SELECTED PAPERS

- C. Jørgensen, K. Enberg, E.S. Dunlop, R. Arlinghaus, **D.S. Boukal**, *et al.* (2007) Managing evolving fish stocks. *Science* 318: 1247–1248.
- S. Dijoux, **D.S. Boukal** (2021) Community structure and collapses in multi-channel food webs: role of consumer body sizes and mesohabitat productivities. *Ecology Letters* 24: 1607–1618.
- L. Gvozdik, **D.S. Boukal** (2021) Impacts of predator-induced behavioural plasticity on the temperature dependence of predator–prey activity and population dynamics. *Journal of Animal Ecology* 90: 503–514.
- V. Kolar, P. Vlasanek, **D.S. Boukal** (2021) The influence of successional stage on local odonate communities in man-made standing waters. *Ecological Engineering* 173: 106440.
- D.S. Boukal**, A. Bideault, B.M. Carreira, A. Sentis (2019) Species interactions under climate change: connecting kinetic effects of temperature on individuals to community dynamics. *Current Opinion in Insect Science* 35: 88–95.

A. Sentis, A. Binzer, **D.S. Boukal** (2017) Temperature-size responses alter food chain persistence across environmental gradients. *Ecology Letters* 20: 852-862.

(Co-)author of >40 contributions at international conferences, including 3 invited lectures (2 plenaries).

STUDENT SUPERVISION (COMPLETED / RUNNING THESES, ONLY ECOLOGY AND RELATED TOPICS)

BSc: 14/0 (2 as co-supervisor), MSc: 17/1 (2/1 as co-supervisor), PhD: 5/4 (2/0 as co-supervisor) - FNSPE CTU Prague, Faculty of Science USB; Faculty of Agriculture USB; Faculty of Education USB (all CZ).

GRANTS (AS PI / CO-PI) & AWARDS

PI/co-PI of 14 Czech and international grants and co-PI of one international grant, including:

- 2021–2024** *Strategies of freshwater ectotherms for a warming world: from individual to community perspective*, Grant Agency of the Czech Republic (21-29169S), co-PI
- 2020–2022** *Understanding the effects of multiple stressors on freshwater biota: Will climate change alter the impact of chemical pollution?*, Grant Agency of the Czech Republic (20-16111S), PI
- 2018–2020** *Overlooked man-made habitats: understanding the drivers and patterns of freshwater biota in polluted standing waters*, Grant Agency of the Czech Republic (18-15927S), PI
- 2017–2019** *Freshwater ectotherms under climate change: the role of phenotypic plasticity in life histories and trophic interactions*, Grant Agency of the Czech Republic (17-15480S), PI
- 2014–2016** *Impact of predation risk and habitat complexity on the dynamics of macroinvertebrate community assembly in freshwater*, Grant Agency of the Czech Republic (14-29857S), PI
- 2010–2013** *Size selection, energy budgets and the evolutionary responses to predation risk*, International Joint Project, Royal Society, UK, co-PI with A. Beckerman (Sheffield, UK)
- 2010–2013** *How plastic are freshwater insects? Measuring growth, phenotypic plasticity and evolution in selected taxa*, Grant Agency of the Czech Republic (P505/10/0096), PI
- 2009–2013** *Modelling individual life histories and population dynamics of predatory aquatic insects: the role of body size*, Marie-Curie Reintegration Grant, EU FP7 (PERG04-GA-2008-239543), PI
- 2009–2010** *Monitoring man-made lakes: what can fisheries data and models tell us?*, Financial mechanisms of EEA and Norway (A/CZ0046/2/0029), PI
- 2004** *NATO Science Fellowship*, University of Amsterdam, Netherlands
- 2006** *Young Investigator Award*, best presentation, 6th Mote International Symposium in Fisheries Ecology, Sarasota, Florida, USA

ACADEMIC SERVICE (SELECTED)

- Editorial boards: *European Journal of Entomology* (Associate Editor, since 2010), *Acta Entomologica Nationalis Musei Pragae* (Member of Editorial Board, 2005–2010, Member of Advisory Board, since 2011), *American Naturalist* (Associate Editor, since 2022)
- Scientific Board / Council member: *Faculty of Science USB* (since 2014), *USB* (2016–2020), *Institute of Hydrobiology*, *Biology Centre CAS* (since 2016), *Czech Society for Ecology* (2011–2015)
- Main organiser: *5th Conference of the Czech Society for Ecology*, Č. Budějovice (2015), symposium *DINFISH2010: Dynamics of Inland Fish and Fisheries*, Č. Budějovice (2010)
- Regular peer reviews for leading journals (including *American Naturalist*, *Ecology*, *Ecology Letters*, *Evolutionary Applications*, *Freshwater Biology*, *Functional Ecology*, *Global Change Biology*, *Journal of Animal Ecology*, *Journal of Applied Ecology*, *Proceedings B*, *Oikos*)
- Reviewer for *NERC* (UK, 2011), *Fullbright Fellowships* (CZ, 2014), *FWO* (Belgium, 2016-2018), *Swiss National Science Foundation* (2020), external reviewer of 4 PhD theses (Comenius University, Slovakia; Charles University, CZ; Potsdam University, Germany; KU Leuven, Belgium).

INTERNATIONAL COLLABORATIONS (ACTIVE)

- Prof. Robby Stoks (KU Leuven, Belgium), Dr. Arnaud Sentis (INRAE & University Aix-Marseille, France), Dr. Bruno Carreira (University of Lisbon, Portugal), Assoc. Prof. Pavel Kratina (Queen Mary University, London, UK), Prof. Mikko Heino (University of Bergen, Norway), Prof. Raul Primicerio (University of Tromsø, Norway), Assoc. Prof. Zoltán Csabai (University of Pécs, Hungary).

České Budějovice, Czech Republic, 04 April 2022