



Carl Smith

ASSOCIATE PROFESSOR – UNIVERSITY OF LODZ · EDITOR-IN-CHIEF – JOURNAL OF VERTEBRATE BIOLOGY

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Currently held positions

Department of Ecology & Vertebrate Zoology, Faculty of Biology and Environmental Protection

University of Lodz

ASSOCIATE PROFESSOR

Journal of Vertebrate Biology, Institute of Vertebrate Biology

Czech Academy of Sciences

EDITOR-IN-CHIEF

Scientific profile and collaborations

My research explores the extraordinary diversity of fish mating systems. My goal is to understand how selection structures that diversity, the role that mating systems play in regulating gene flow between populations and species, and the way in which coevolution between species can shape mating system evolution. I have cultivated five main themes in my research: the remarkable mating system of bitterling; fish that lay their eggs in the gills of living freshwater mussels; the dynamic coevolutionary relationship between bitterling and their mussel hosts; the selective factors driving the rapid evolutionary radiation of sticklebacks on the island of North Uist; the reproductive ecology of the zebrafish model; and the evolution of parental care in fishes, including the evolution of parental cannibalism. I employ a range of techniques in my research, including behavioural observation, population-level analysis, population genetics, parentage analysis, physiology studies, comparative analysis, and a range of cutting-edge statistical approaches.

Research has been conducted primarily in collaboration with researchers at the Institute of Vertebrate Biology of the Czech Academy of Sciences in Brno, Institute of Hydrobiology in Wuhan, China, University of Bergen, Norway, Kyoto University, Japan and Mie University, Japan.

I was formerly Reader in Zoology at the University of St Andrews, UK and held lectureships at the University of Leicester, UK and Queen Mary College of the University of London. Before my first lectureship, I held a research fellowship at the University of East Anglia, UK, worked as a fish ecologist at Plymouth Marine Laboratory, UK, served as an aid worker for Voluntary Service Overseas in Bangladesh, and worked for the Food and Agriculture Organisation of the United Nations. I completed a PhD on fish ecology at the University of Aberystwyth, UK and I am the author of over 150 scientific papers and six books.

Selected publications

- 2022 *Unusual egg shape diversity in bitterling fishes* [\[link\]](#)
- 2016 *The remarkable reproductive diversity of teleost fishes* [\[link\]](#)
- 2004 *A receiver bias in the origin of threespine stickleback mate choice* [\[link\]](#)

Research grants

Principal Investigator: 16 grants: NCN, NERC, Leverhulme, Royal Society, FSBI

Co-Investigator: 3 grants: NCN, EPSRC, Czech Grant Agency

International research stays

Norway, University of Bergen, in the team of Dr Tom Klepaker

China, Wuhan, Institute of Hydrobiology, in the team of Prof. Huanzhang Liu

Bangladesh, Mymensingh, Bangladesh Agricultural University