







## Johana Rotterová

 jrotterova@uri.edu, jo.rotterova@gmail.com  
 +1 401 218 1981, +420 777 542 145  
 University of Rhode Island  
 Graduate School of Oceanography  
 Coastal Institute,  
 215 South Ferry Rd.  
 Narragansett, RI 02882, USA

 R-8779-2017  
 0000-0001-7393-7273  
 profile/Johana\_Rotterova  
 57193358189  
 @JohanaProtists  
 jorott\_  
 www.beinartlab.com

## Education

- 2015 – 2020     Doctoral program in Zoology, Faculty of Science, Charles University. Ph.D. degree received in July 2020. Thesis: Anaerobic ciliates as a model group for studying the biodiversity and symbioses in anoxic environments, supervised by prof. RNDr. Ivan Čepička, Ph.D.
- 2013 – 2015     Master's program in Protistology, Department of Zoology, Faculty of Science, Charles University. MSc. degree received in 2015, Rerum naturalium doctor (RNDr.) in Protistology received in 2016. Thesis: Morphological and molecular diversity of the free-living representatives of the family Metopidae and the discovery of a new lineage of anaerobic ciliates, supervised by prof. RNDr. Ivan Čepička, Ph.D.
- 2010 – 2013     Bachelor's program in Molecular Biology and Biochemistry of Organisms, Faculty of Science, Charles University. BSc. degree received in 2013. Thesis: The use of DNA barcoding method in protists, supervised by prof. RNDr. Ivan Čepička, Ph.D.

## Research Experience

- 2020 – now     Postdoctoral research scholar at University of Rhode Island (RI, USA), Graduate School of Oceanography, Coastal Institute, Beinart Lab.
- 2019 – 2020     Principal researcher in Charles University Grant Agency funding project nr. 116119, titled Phylogeny and diversity of anaerobic ciliates of the class Odontostomatea (SAL, Ciliophora) and characterization of their methanogenic symbionts.
- 2019 – 2021     Member of the research team in Czech Science Foundation (GACR) project nr. 19-19297S titled Free-living anaerobic ciliates as a model group for studying the biodiversity and symbioses in anoxic environments.
- 2018 – 2020     Member of the research team in Czech Science Foundation (GACR) project nr. 18-18699S, titled Non-standard genetic codes in protists and their evolution.
- 2015 – 2018     Principal researcher in Charles University Grant Agency funding project nr. 389915, titled Diversity and Evolution of Anaerobic Ciliates, an ecologically important but poorly known group of protists.
- 2014 – 2017, 2019 – 2020     Scientific researcher at Charles University (Czech Republic), Faculty of Science, Department of Zoology

## Publications in Impacted Scientific Journals

Méndez-Sánchez, D., Pomahač, O., Rotterová, J., Bourland, W., Čepička, I., 2021. Diversity and phylogenetic position of *Bothrostoma* Stokes, 1887 (Ciliophora: Metopida), a poorly studied ciliate genus, with description of four new species. Under review.

Rotterová, J., Salomaki, E., Pánek, T., Bourland, W., Žihala, D., Táborský, P., Edgcomb, V. P., Beinart, R. A., Kolísko, M., Čepička, I., 2020. Genomics of new ciliate lineages provides insight into the evolution of obligate anaerobiosis. *Current Biology* 30: 1–14. (IF 9.193)

Bourland, W., Rotterová, J., Čepička, I., 2020. Description of three new genera of Metopidae (Metopida, Ciliophora): *Pileometopus* gen. nov., *Castula* gen. nov., and *Longitaenia* gen. nov., with notes on the phylogeny and cryptic diversity of metopid ciliates. *Protist*, In Press. (IF 3.000)

Bourland, W., Rotterová, J., Čepička, I., 2018. Morphologic and molecular characterization of *Brachonella pulchra* (Kahl, 1927) comb. nov. (Armophorea, Ciliophora) with comments on cyst structure and formation. *International Journal of Systematic Evolutionary Microbiology* 68:3052–3065. (IF 2.166)

Rotterová, J., Bourland, W., Čepička, I., 2018. Tropidoatractidae fam. nov., a deep branching lineage of Metopida (Armophorea, Ciliophora) found in diverse habitats and possessing prokaryotic symbionts. *Protist* 169: 362–405. (IF 3.000)

Beinart, R.A., Rotterová, J., Čepička, I., Gast, R.J., Edgcomb, V.P., 2018. The genome of an endosymbiotic methanogen is very similar to those of its free-living relatives. *Environmental Microbiology* 20: 2538–2551. (IF 5.147)

Bourland, W., Rotterová, J., Luo, X., Čepička, I., 2018. The little-known freshwater metopid ciliate, *Idiometopus turbo* (Dragesco and Dragesco-Kernéis, 1986) nov. gen., nov. comb., originally discovered in Africa, found on the Micronesian island of Guam. *Protist* 169: 494–506. (IF 3.000)

Warren, A., Patterson, D. J., Dunthorn, M., Clamp, Rotterová, J., et al., 2017. Beyond the “Code”: A Guide to the Description and Documentation of Biodiversity in Ciliated Protists (Alveolata, Ciliophora). *Journal of Eukaryotic Microbiology* 64: 539–554. (IF 2.361)

Bourland, W.A., Rotterová, J., Čepička, I., 2017. Redescription and molecular phylogeny of *Metopus es* Lauterborn, 1916 and *Brachonella contorta* Jankowski, 1964, based on broad geographic sampling. *European Journal of Protistology* 59: 133–154. (IF 2.626)

Bourland, W.A., Rotterová, J., Čepička, I., 2017. Morphologic and molecular characterization of seven species of the remarkably diverse metopid genus *Urostomides* (Armophorea, Ciliophora). *European Journal of Protistology* 61: 194–232. (IF 2.626)

## Scopus Metrics

Currently (to 10<sup>th</sup> of October, 2021) author or co-author of 10 publications with 121 citations, 66 co-authors, and has h-index 6.

## Presentations at Selected International Conferences from Last Five Years

Rotterová, J., Salomaki, E., Pánek, T., Bourland, W.A., Edgcomb, V.P., Táborský, P., Žihala, D., Beinart, R.A., Kolísko, P., Čepička, I., 2019. Where oxygen is not popular – phylogenomic analysis of anaerobic ciliates (Ciliophora). VIII. ECOP (European Congress of Protistology) – ISOP (International Society of Protistologists) Joint Meeting, Rome, Italy.

Rotterová, J., Beinart, R.A., Edgcomb, V.P., Bourland, W.A., Táborský, P., Kolísko, P., Čepička, I., 2018. Phylogenomic analysis of SAL super-group (Ciliophora), including novel marine lineages of anaerobic ciliates, which host prokaryotic symbionts. ISEP (International Society of Evolutionary Protistology), Paphos, Cyprus.

Beinart, R.A., Rotterová, J., Sylva, S., Seewald, J.S., Čepička, I., Gast, R.G., Edgcomb, V.P., 2017. Metabolic functioning of a ciliate-methanogen symbiosis from anoxic habitats, 6th International Symposium on Chemosynthesis-Based Ecosystems (CBE6), Woods Hole, Massachusetts, USA.

Rotterová, J., Beinart, R., Edgcomb, V., Bourland, W., Čepička, I., 2017. Novel marine lineages of anaerobic ciliates hosting prokaryotic symbionts, XV. ICOP (International Congress of Protistologists), Prague, Czech Republic.

Rotterová, J., Nováková, L., Čepička, I., 2015. Mapping the diversity of Metopida and revealing new marine anaerobic ciliates hosting prokaryotic symbionts, VII. ECOP 2015, Seville, Spain.

## Selected Awards

2021 – Bolzano Award

2020 – Hlávkova Foundation Award

2018 – Best doctoral poster at Department of Zoology, Faculty of Science, Charles University

- 2018 – ISEP (International Society of Evolutionary Protistology) Travel Award from FEMS (Federation of European Microbiology Societies)
- 2015 – Awarded scholarship from the program for supporting talented PhD students at the Faculty of Science, Charles University (STARS)
- 2016 – Hlávková Foundation Endowment for an internship in WHOI, MA, USA (2016)
- 2016 – Mobility Fund of Charles University (MFCU) support for internship in WHOI, MA, USA (2016)
- 2014 – Best conference poster at 44<sup>th</sup> Jírovec Protozoological days, Krásná, Czech Republic

#### Memberships in Scientific Organizations

- Since 2020 – American Society for Cell Biology; Research Coordinated Network (RCN) for Evolution in Changing Seas
- Since 2018 – Czech Slovak Society of Microbiology; International Society for Evolutionary Protistology
- Since 2015 – International Society of Protistologists
- Since 2014 – Czech Society of Parasitology, Protozoological Section

#### Scientific Internships and Selected Workshops

- 10/2020            MINOTA: Maine INBRE Non-model Organism Transcriptome Analysis Workshop, MDI Biological Laboratory, ME, USA.
- 10/2019            EMBO Workshop - Comparative genomics of eukaryotic microbes: Genomes in flux, and flux between genomes, Sant Felieu, Spain.
- 8 – 9/2019        Scientific internship in the laboratory of Dr. Roxanne Beinart, Graduate School of Oceanography, University of Rhode Island, RI, USA.
- 2/2019            Evomics Workshop on Phylogenomics, Český Krumlov, Czech Republic.
- 7/2018            OstraPy, Ostrava, Czech Republic – bioinformatics workshop focused on coding in Python language.
- 6 – 9/2016        Scientific internship in the laboratory of Dr. Virginia Edgcomb, Department of Geology & Geophysics, Woods Hole Oceanographic Institution, MA, USA.
- 7 – 8/2016        Microbial Diversity Course (MDC) and Molecular Evolution Workshop (MEW), Marine Biological Laboratory (MBL), Woods Hole, MA, USA, visiting attendance as an internship student of Woods Hole Oceanographic Institution (WHOI).
- 7 – 8/2016        Strategies and Techniques for Analyzing Microbial Population Structures (STAMPS), MBL, Woods Hole, MA, USA, visiting attendance as an internship student of WHOI.
- 5/2014            IRCN - BC workshop on ciliate diversity and methods of ciliate taxonomy, Royal Holloway, University of London (RHUL), Egham, United Kingdom.

#### Conference Organization and Volunteer Activity

- 2021            Member of URGE (Unlearning Racism in Geoscience) in at GSO, University of Rhode Island URGE
- 2021            Participation in *Safe Zone Workshop* at University of Rhode Island
- 2020            Volunteering panelist at 2020 symposium of SWMS Society for Women in Marine Science

- 2020 Co-organizer of international virtual scientific Online Poster Session on Protists (#ProtistSession), 10<sup>th</sup> – 14<sup>th</sup> of August, 2020.
- 2018 – 2019 Main organizer and head coordinator of international scientific conference 49<sup>th</sup> Jírovec Protozoological Days, 22<sup>nd</sup> – 26<sup>th</sup> of April, 2019 (Protodays 2019).
- 2014 – 2019 Chairman and co-founder of non-governmental organization The Kukang Rescue Program r.s., focused on conservation, rehabilitation, and reintroduction of Greater slow loris (*Nycticebus coucang*) in Northern Sumatra.

#### Teaching & Advising Activities

- 05 – 07/2021 Mentor of an undergraduate student at University of Rhode Island, RI, USA; participating in the SURF (Summer Undergraduate Research Fellowship) RI C-AIM/NSF EPSCoR with project titled Morphologic plasticity and growth curves of anaerobic ciliates hosting prokaryotic symbionts.
- 2020 Mentor of a doctoral student at Boston University, MA, USA; as Participant of The Research Coordinated Network for Evolution in Changing Seas (Virtual Lab Meeting Training Program).
- 2015 – 2019 Assistant, Lecturer, Practical Course in Protistology, Zoology Department, Faculty of Science, Charles University.
- 2019 External lecturer on Diversity of Ciliophora, Protistology, Zoology Dept., F.S., Charles University.
- 2019 – 2020 Advisor of Master's student MSc. BSc. Ondřej Pomahač, Thesis: Diversity and phylogeny of metopid ciliates of the IAC group (supervised by prof. RNDr. Ivan Čepička, Ph.D.), Zoology Dept., Faculty of Science, Charles University.
- 2017 – 2020 Advisor of Master's student BSc. Kateřina Poláková, Thesis: Prokaryotic symbionts of free-living anaerobic protists (supervised by prof. RNDr. Ivan Čepička, Ph.D.), Zoology Dept., FS, CU.
- 2015 – 2017 Advisor of Bachelor's student Kateřina Poláková, Thesis: Diversity of scuticociliates and their symbionts of student (supervised by prof. RNDr. Ivan Čepička, Ph.D.), Zoology Dept., FS, CU.
- 06/2017 Oponent at Bachelor's Thesis Defense of student Aneta Kubánková (supervised by doc. Mgr. Vladimír Hampl, Ph.D.), Thesis: Prokaryotic symbionts of protists living in the intestine of wood eating cockroaches and termites, Parasitology Department, FS, CU.

#### Technical Skills

Molecular methods of isolation, amplification, purification, cloning, and sequencing of eukaryotic and prokaryotic DNA/RNA.

Laboratory methods of cultivation of anaerobic protists and prokaryotes.

Light and fluorescence microscopy methods (CARD Fluorescence in situ hybridization methods; microphotography, BF, DIC, phase contrast, Nomarski, living and fixed cells observations; methods of fixing and cell staining, such as protargol-staining or silver-carbonate; image analyses).

Electron microscopy (scanning EM to study the morphology of fixed cells, transmission EM to assess an ultrastructure of fixed cells, image analysis and interpretation).

Bioinformatics methods (user level - RaxML-ng, PhyloBayes, IQ Tree, QIIME, Blast, Unix, and other tools for biological methods of sequence analyses; genomics and transcriptomics methods for phylogenomics and in silico predictions of metabolic pathways; primer design; R and Python language – beginner).

#### Language skills

Czech – native speaker (C1 – C2 level)

German, Spanish, Italian, Slovak – semi-fluent speaker (B1 – B2 level)

English – near-native speaker (C1 – C2 level)

French, Indonesian – beginner (A1 – A2 level)