

### Personal information:

Name and surname: Maja Mucko

Title: Philosophiae Doctor, Ph.D.

Place and date of birth: Uskoplje, Bosnia and Herzegovina, May 2, 1991.

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### Current job:

15.09.2022. – 05.04.2025. Postdoctoral fellow at University of Zagreb, Faculty of Science, Biology Department (Croatian Ministry of Science funded)

### Education:

- (2015-2018) University of Zagreb, Faculty of Science, postgraduate (doctoral) study in Biology; Thesis: Morphology and phylogeny of picoeukaryotes and planktonic pennate diatoms in the middle and south Adriatic Sea. Mentorship: Dr Zrinka Ljubešić, Professor  
Thesis defended July 6, 2018.
- (2012-2014) University of Zagreb, Faculty of Science, Graduate study in Biology, Master Degree in Ecology and Nature Protection (mag. oecol. et prot. nat.); Master thesis title: “Primary biofilm succession on artificial substrate in the sea”; Mentorship: Dr Zrinka Ljubešić, Professor  
Thesis defended June 18, 2014.
- (2009-2012) University of Zagreb, Faculty of Science, Undergraduate study in Biology, Bachelor Degree in Biology (univ. bacc. biol.); Bachelor thesis title: “Methods of sampling and processing periphytic diatoms and dinoflagellates”; Mentorship: Dr Zrinka Ljubešić, Professor
- (2006-2009) High School “Lovro Monti”, Knin, Croatia
- (2000-2005) Elementary Music School “Krstó Odak”, Drniš, Croatia
- (1998-2005) Elementary School “dr. Franjo Tuđman”, Knin, Croatia

### Work experience:

- 06.04.2021. – 14.09.2022. - Postdoctoral fellow at University of Zagreb, Faculty of Science, on Croatian Science Foundation project “Phylogeography and evolution of three ecologically divergent groups of amphi-Adriatic plants - AmphiAdriPlant”
- Teaching and research assistant at University of Zagreb, Faculty of Science, Biology Department, Laboratory for Biological Oceanography, Financed by Croatian Science Foundation (contract 05.01.2017. – 05.04.2021.)

- (2015-2017) Professional associate / postgraduate student at University of Zagreb, Faculty of Science, Biology Department, Laboratory for Biological Oceanography, Financed by Croatian Science Foundation
- (2013-2014) Student employee: Input of field data in database for Crofauna and Natura2000 areas at State Institute for Nature protection
- (2012-2014) Student employee at Interpunkt d.o.o. i Agentius d.o.o. call agencies – call agent and shift supervisor

#### Foreign languages:

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- English (C2)

#### Research topics:

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- Phylogeny, morphology and environmental omics of marine plankton with special interest in diatoms and green algae. Morphology, phylogeny and environmental omics of endozoic and epizoic communities on marine turtles. Phylogeography and population genomics of various plant species.

#### Specific technical skills and competencies:

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- **Computational lab skills:** Microsoft Office, CorelDraw, Gimp, R, Sequencher, ClustalW, Mafft, SeaView, Mesquite, RNASTructurer, AliView, BioEdit, MEGA, MrBayes; Linux compiled softwares: IQtree, RaxML, BEAST, SSU-align, QIIME1, QIIME2, FastQC, STACKS and other bioinformatic tools.
- **Molecular laboratory techniques:** DNA isolation (with various kit's and standard methods), DNA amplification, DNA concentration measurements (NanoDrop), PCR product visualisation (gel-electrophoresis), PCR product purification, NGS library preparation for RADSeq
- **Microscopy skills:** Phytoplankton and phytobenthos cell culturing with various methods (micropipette manipulation, serial dilution techniques, filtering, plate inoculation), preparation of samples for scanning and transmission electron microscopy, microscopy (light, scanning and transmission electron microscopy), diatom processing (cleaning with various techniques) and permanent slide preparation.

#### Scientific publications, participation in scientific projects, education activities:

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- Author/co-author of 17 original scientific papers, 2 reviews, 3 short conference papers and 4 professional papers. [CROSBI](#)
- Author/co-author of 47 abstracts published in Proceedings of various international scientific conferences and 5 abstracts cited by CC journal [CROSBI](#)
- 2021- Collaborator on UIP-2017-05-2882 (Phylogeography and evolution of three ecologically divergent amphi-Adriatic plant groups) [WEB](#)
- 2021- Collaborator on IP-2020-02-9524 (Island trapped waves as a driver of primary production - Island) [WEB](#)

- (2018-2020) Collaborator on UIP-2017-05-5635 (Loggerhead sea turtle (*Caretta caretta*) microbiome: insight into endozoic and epizoic communities (TurtleBIOME)) [WEB](#)
- (2015-2017) Collaborator on UIP-2013-11-6433 (BIOTA – Bio-tracing Adriatic Water Masses), [WEB](#)
- (2016-2020) Collaborator on COST Action DNAqua (Developing new genetic tools for bioassessment of aquatic ecosystems in Europe CA15219), [WEB](#)
- (2014/15; 15/16; 16/17; 17/18; 19/20) Teaching assistant in practical course of Algology (Protists)
- (2016/17; 17/18) Teaching assistant in practical course Pelagial microbiology
- (2014/15; 15/16; 16/17; 17/18) Teaching assistant in field course of Algology (Protists) and Biological Oceanography
- Reviewer for Journal of Marine and Freshwater Research, Cryptogamie Algologie and Acta Botanica Croatica

### Scientific collaborations:

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- Dr.sc. Matt Ashworth and dr.sc. Thomas Frankovich – description of new diatom genus (*Nevidinia* gen. nov.); article in prep
- Dr. sc. Nevena Kuzmanović and dr. sc. DMITAR Lakušić (University of Belgrade) – phylogeny and phylogeography of *Festuca varia* complex; article in prep
- Dr. Colleen Durkin, Monterey Bay Aquarium Research Institute – NGS amplicone analysis of marine plankton from Sea2Space North Pacific survey, article: Durkin et al. 2022, The ISME Journal
- David Mann and Rosa Trobajo (Royal Botanic Garden Edinburgh, Edinburgh, United Kingdom and Marine and Continental Waters Program, Institute for Food and Agricultural Research and Technology (IRTA), Sant Carles de la Rapita, Catalunya, Spain): *Nitzschia* species in the Adriatic Sea – phylogenetic and morphological analyses and paper publication
- Teofil Nakov and Elizabeth Ruck (University of Arkansas, Fayetteville, USA): *Entomoneis* species in the Adriatic Sea – phylogenetic analyses and paper publication
- Daniel Vaultot (Station Biologique de Roscoff, Roscoff, France): *Picochlorum* species in the Adriatic Sea – advices for data analyses, paper publication
- Romain Gastineau (University of Szczecin, Szczecin, Poland): *Haslea silbo* sp. nov.; description of two new *Haslea* species, of which one was isolated from the Adriatic Sea, paper publication
- Sandi Orlić (Institute Ruđer Bošković, Zagreb, Croatia): Molecular identification of Adriatic diatoms, picoeukaryotes and bacteria: learning of basic molecular methods, usage of molecular biology equipment; articles: Mejdandžić et al. 2017, Phytotaxa; Mejdandžić et al. 2018, Journal of Phycology; Mucko et al. 2020, European Journal of Phycology

### Workshops, scientific training and organizing experience:

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- (March 2023) Organization and lecturing of three-day workshop “UNIX for Bioinformatics in analysis of genetic data” at Faculty of Forestry and woodland technology, Zagreb, Croatia
- (October 2022) ForBio seven-day workshop “Population genetics of polyploids, from theory to practice”, Drobak, Norway
- (2022) Online Symposium “Fire burn and cauldron bubble” as introduction to workshop organized by ForBio: “Population genetics of polyploids, from theory to practice” held on 23. & 24.2.2022.
- (2022) Online workshop on “Statistical Analyses with R” in organization by Transmitting Science
- (2021) Online workshop on “RADseq data analysis” in organization by Physalia (Berlin, Germany)
- (2021) Online workshop on “Using the computer cluster Isabella” in organization of University of Zagreb, Computing Center “Srce”
- (2021) Online workshop on “Advanced programming in Python” in organization of University of Zagreb, Computing Center “Srce”
- (2021) Online workshop on “Basic programming in Python” in organization of University of Zagreb, Computing Center “Srce”
- (2021) Speaker on online workshop “New and rare taxa of mosses, lichens and algae in Croatian flora”
- (2019) Invited talk titled “European diatom collections” held at Croatian National Diatom Collection presentation at Croatian Academy of Science and Arts, December 9<sup>th</sup> 2019
- (2018) Speaker on workshop “Molecular tools in algology” in organization of Croatian botanical society
- (2017) School on “Using R and Stats in Next Generation Sequencing data” in organization of Exaltum Ltd., Zagreb, Croatia
- (2017) COST Action CA15219 ('DNAqua-Net')-Developing new genetic tools for bioassessment of aquatic ecosystems in Europe, workshop of WG2, development of diatom indices, Zagreb, Croatia
- (2017) COST Action CA15219 ('DNAqua-Net')-Developing new genetic tools for bioassessment of aquatic ecosystems in Europe, workshop of WG2, development of diatom indices, Sarajevo, Bosnia and Herzegovina
- (2017) Analysis of Gene Expression and Regulation on Several Levels seminar in organization by Promega and GeneTeam
- (2017) Next generation sequencing in medical practice, seminar in organization by Kemomed d.o.o. (KBC Zagreb, Croatia)
- (2016) Workshop on project AMBIOMERES (Appearance and interaction of biologically important organic molecules and micronutrient metals in marine ecosystem under environmental stress (AMBIOMERES IP-11- 2013-8607)), Institute Ruđer Bošković, Zagreb, Croatia

- (2016) ‘‘12th Summer Course on Marine Ecological & Evolutionary Genomics’’ held by Station Biologique de Roscoff, Roscoff, France
- (2016) ‘‘Applications of scanning electron microscopy, energy-dispersive spectroscopy and wavelength-dispersive spectrometry’’ held by dr. sc. Suzana Erić from University of Belgrade; University of Zagreb, Faculty of Mining and Geology, Zagreb, Croatia
- (2016) Member of technical support at 5. Croatian botanical symposium, Primošten, Croatia
- (2015) Next Generation Sequencing in daily practice Seminar held at University of Maribor, Faculty of Medicine in organization by Kemomed d.o.o., Maribor, Slovenia
- (2015) Scientific training at Ruđer Bošković Institute, use of SEM, cultivation of marine phytoplankton cells, sedimentation and abundance estimation of phytoplankton – Marine research center, Rovinj, Croatia
- (2015) Scientific training at Alfred Wegener Institute (AWI), Bremerhaven, Germany
- (2015) Workshop held by dr. sc. Marko Košiček - ‘‘How to present science in the media’’, University of Zagreb, Zagreb, Croatia
- (2015) Member of technical support at 12. Croatian botanical congress, Sveti Martin na Muri, Croatia
- (2015-up to date) Secretary and treasurer of Croatian botanical society
- (2014) Member of technical support team at 8th Central European Diatom Meeting (Zagreb, Hrvatska)
- (2014) International research and educational camp ‘‘Grabovača’’ in organization of Croatian student biology association BIUS
- (2013-2014) Head of Algology section in Croatian Biology Student Association (BIUS)
- (2013-2014) Organization of international research and educational project ‘‘APSYRTIDES’’ Cres, Croatia, Biology Student Association (BIUS)
- (2011) Research and educational camp ‘‘Moslavačka Gora’’ in organization of Croatian Biology Student Association (BIUS)
- (2011) International research and educational camp ‘‘Hvar 2011’’ in organization of Croatian Biology Student Association (BIUS)
- (2010-2012) Popular scientific manifestation ‘‘Biology Night’’ at University of Zagreb, Faculty of Science, Biology Department

#### **Invited lectures:**

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- (2021) Invited lecture on online workshop ‘‘New and rare taxa of mosses, lichens and algae in Croatian flora’’ in organization of Croatian Botanical Society
- (2019) Invited lecture ‘‘Diatom collections in Europe’’ at the presentation of the Croatian National Diatom Foundation at the Croatian Academy of Sciences and Arts (HAZU) on December 9, 2019
- (2018) Invited lecture at the workshop ‘‘Molecular methods in algology’’ organized by the Croatian Botanical Society, Zagreb, Croatia; Lecture title: ‘‘Molecular methods in biological oceanography’’

- (2016) Invited lecture entitled "Louis XIV's Favorite Dish" organized by the Croatian Botanical Society, PMF, Zagreb.

### Rewards:

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- (2022) Best student reward at course held by Transmitting Science "Statistical Analyses with R"
- (2018) 3<sup>rd</sup> place – Best student oral presentation titled: "Planktonic lifestyle lovers": a story of eight new marine *Entomoneis* species; presented at 25. International Diatom Symposium, Berlin, Germany
- (2017) 1<sup>st</sup> place - Best student poster presentation titled: Hidden diversity of planktonic *Entomoneis* species; presented at 11. Central European Diatom Meeting, Prague, Czech Republic
- (2014) Dean's best student award at Master studies of Ecology and Nature Protection at University of Zagreb, Faculty of Science, Biology Department
- (2014) Scholarship for 10% best students from University of Zagreb, Faculty of Science
- (2013) Christmas Grant from University of Zagreb, Faculty of Science, Biology Department
- (2012) Special Rector's award for participation in popular scientific manifestation "Biology Night"

### Societies and organizations:

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- (2017-) Member of Phycological Society of America
- (2015-) Member of British Phycological Society
- (2015-) Member of International Society for Diatom Research
- (2014-) Member of Croatian Botanical Society
- (2010-) Member of Biology Student Association (BIUS)