

REBECCA LUCIA MAHER

Ph.D. candidate, Department of Microbiology, Oregon State University
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Current Research Focus

Microbial ecology of corals experiencing anthropogenic stress and ecosystem change
Keywords: multivariate statistics, animal symbioses, bioinformatics, genomics, climate change

Education

- 2016-present Ph.D. Candidate, Department of Microbiology, Oregon State University, Corvallis, OR
Minor in Biological Data Sciences (expected defense Spring 2021)
Ford Foundation 2020 Dissertation Fellowship
National Science Foundation (NSF) Graduate Research Fellowship Program
- 2012-2016 B.S. in Ecology and Evolutionary Biology, Rice University, Houston TX
Distinction in Research, Julian Huxley Award for Excellence

Research Positions

- 2019-present **NSF Graduate Research Intern**, Genetics and Evolution Program
Conservation Biology Division, Northwest Fisheries Science Center (NWFS), National Oceanic and Atmospheric Administration (NOAA) (P.I. Dr. Krista Nichols)
Genetic basis of survival for Dungeness crab under present and future ocean acidification regimes
- 2016-present **Ph.D. Candidate**, Ford Dissertation Fellow, NSF Graduate Research Fellow
Department of Microbiology, Oregon State University, Corvallis, OR (P.I. Dr. Rebecca Vega Thurber, Minor advisor: Dr. Katherine McLaughlin)
Impacts of independent and co-occurring stressors such as increasing seawater temperature, nutrient enrichment, and overfishing on coral-associated microbial community composition and stability
- 2015-2016 **Undergraduate Research Assistant**, Coral Reef Ecology
Ecology and Evolutionary Biology, Biosciences, Rice University, Houston, TX (P.I. Dr. Adrienne M.S. Correa)
Spatial distribution of bioeroding barnacles in dominant reef-building corals of the Flower Garden Banks National Marine Sanctuary
- 2014-2015 **Undergraduate Research Assistant**, Tropical Ecology and Conservation
Ecology and Evolutionary Biology, Biosciences, Rice University, Houston, TX (P.I. Dr. Amy Dunham)
Correlating endangerment status of mammals with the loss of ecosystem services in tropical forests
- 2014 **Research Assistant**
Operation Wallacea, Cusuco National Park, Honduras and Utila, Honduras
Monitoring taxonomic biodiversity across a threatened cloud forest and coral reef
- 2014 **Independent Student Researcher**
Ecuador: Comparative Ecology and Conservation, School for International Training (SIT)
Role of seed dispersal by capuchin monkeys in protecting against defaunation in tropical forests
- 2013 **Lab Technician**, Community Ecology
Ecology and Evolutionary Biology, Biosciences, Rice University, Houston, TX (P.I. Dr. Volker Rudolf)
Impact of changes in temperature regimes on phenological shifts in pond communities

Publications

- In Press Klinges JG*, **Maher RL***, Vega Thurber R, Muller EM. Parasitic "*Candidatus Aquarickettsia rohweri*" is a marker of disease susceptibility in *Acropora cervicornis* but is lost during thermal stress. Environmental Microbiology. (In Press)

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In Press	Maher RL , Schmeltzer E, Meiling S, McMinds R, Ezzat L, Shantz AA, Adam TC, Schmitt RJ, Holbrook SJ, Burkepile DE, Vega Thurber R. Coral microbiomes demonstrate flexibility and resilience through a reduction in community diversity following a thermal stress event. <i>Frontiers in Ecology and Evolution</i> . (In Press)
2020	Rice MM, Maher RL , Correa AMS, Moeller HV, Lemoine NP, Shantz AA, Burkepile DE, Silbiger NJ. Macroborer presence on corals increases with nutrient input and promotes parrotfish corallivory. <i>Coral Reefs</i> . 2020; 39: 409-418.
2020	Ezzat L, Lamy T, Maher RL , Munsterman KS, Landfield KM, Schmeltzer E, Clements CS, Vega Thurber R, Burkepile DE. Parrotfish predation drives distinct microbial communities in reef-building corals. <i>Animal Microbiome</i> . 2020;2.
2019	Ezzat L, Lamy T, Maher RL , Munsterman KS, Landfield KM, Schmeltzer E, Burkepile DE, Vega Thurber R. Surgeonfish feces increase microbial opportunism in reef-building corals. <i>Marine Ecological Progress Series</i> . 2019;631: 81-97.
2019	Rice MM*, Maher RL* , Vega Thurber R, Burkepile DE. Different nitrogen sources speed recovery from corallivory and uniquely alter the microbiome of a reef-building coral. <i>PeerJ</i> . 2019;7:e8056.
2019	Maher RL , Rice MM, McMinds R, Burkepile DE, Vega Thurber R. Multiple stressors interact primarily through antagonism to drive changes in the coral microbiome. <i>Scientific Reports</i> . 2019;9: 6834.
2019	Weinstein DK, Maher RL , Correa AMS. Bioerosion. In: Loya Y, Puglise KA, Bridge TCL, editors. <i>Mesophotic Coral Ecosystems</i> . Cham: Springer International Publishing; 2019. pp. 829–847.
2018	Maher RL , Johnston MA, Brandt ME, Smith TB, Correa AMS. Depth and coral cover drive the distribution of a coral macroborer across two reef systems. <i>PLoS One</i> . 2018;13.

Conferences & Presentations

2020	14 th International Coral Reef Symposium, Bremen, Germany (postponed)
2020	Poster: NOAA NWFSC Symposium, Seattle, WA (postponed)
2019	Gordon Research Seminar (GRS) on Marine Molecular Ecology, Hong Kong, CN
2019	Poster: 3 rd Workshop on Statistical and Algorithmic Challenges in Microbiome Data Analysis, New York, NY
2018	International Symbiosis Society (ISS) Congress, Corvallis, OR
2017-2019	Moorea Coral Reef (MCR) Long Term Ecological Research (LTER) All Investigators Meeting (AIM), University of California Santa Barbara (UCSB), CA
2017	European Coral Reef Symposium, Oxford, UK
2016	Poster: 13 th International Coral Reef Symposium, Honolulu, Hawaii
2016	Poster: Natural Sciences Undergraduate Research Symposium
2013-2016	Poster: Rice Undergraduate Research Symposium, Rice University, Houston, TX
2015	SIT World Learning Study Abroad Research Symposium, Rice University, Houston, TX
2014	Rice Engineers Without Borders Year in Review, Rice University, Houston, TX
2013	Poster: Rice Empower STEM Expo, Rice University, Houston, TX

Grants, Fellowships & Awards

2020	Ford Foundation 2020 Dissertation Fellowship Competition (\$28,000)
2019-present	National Science Foundation Graduate Research Internship Program (NSF GRIP) (\$5,000)
2017-present	NSF Graduate Research Fellowship (GRFP) (3 years Ph.D. funding)
2019	College of Science Student Travel Award (\$500)
2019	President's Commission on the Status of Women Scholarship (\$500)
2019	Carl Storm Underrepresented Minority Fellowship (\$600)

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2016	3 rd Place Marine Science Paper Competition, The American Salvage Association and North American Marine Environment Protection Association (\$100)
2016	Shell Center for Sustainability (SCS) Sustainable Development Award (\$500)
2016	Julian Huxley Award for Excellence, Ecology and Evolutionary Biology, Biosciences, Rice University
2016	Distinction in Research, Ecology and Evolutionary Biology, Biosciences at Rice University
2016	NSF GRFP Honorable Mention
2016	Rice University Undergraduate Conference Grant (\$500)
2015	Sigma Xi Grants-in-Aid of Research (\$500)
2014	The Explorers Club Youth Activity Fund Grant (\$750)

Synergistic Activities

2019	Summer Institute in Statistical Genetics, Department of Biostatistics at the University of Washington
2018-present	Oregon Museum of Science and Industry (OMSI) Science Communication Fellow
2016-present	Member of the International Coral Reef Society and the American Society for Microbiology
2019	Journal reviewer for iScience & Ecology
2019	Gordon Research Conference Power Hour on addressing the challenges women face in science and issues on diversity and inclusion
2018	Co-organizer of the Bioerosion on Moorea workshop with the MCR LTER at UCSB, CA
2018	Co-organizer and participant in the Education Session at the International Symbiosis Society Congress
2017	Featured scientist on Inspiration Dissemination on KBVR FM
2017	Outreach at Corvallis Montessori School
2017	Outreach at Art Camp at The Arts Center in Corvallis, OR
2016	Teaching assistant – Introduction to Aquatic Ecology with SCUBA Lab, Biosciences, Rice University
2015	4H Leadership Lab with the Flower Garden Banks National Marine Sanctuary, NOAA
2015	World Oceans Day at the Houston Museum of Natural Science

Media Coverage

[“4 Awesome Discoveries You Probably Didn’t Hear About This Week - Episode 30”](#) –NSF, youtube (June 2019)
[“Localized efforts to save coral reefs won’t be enough, Oregon State study suggests”](#) –OSU, newsroom (May 2019)
[“Boring barnacles prefer the shallow life on coral reefs”](#) –News and Media Relations, Rice University (June 2018)
[“Project CHOMPIN: Parrotfish, nutrients, and the coral microbiome”](#) –Inspiration Dissemination (July 2017)

Certifications, Training & Skills

Training and Languages: Center for Genome Research and Biocomputing at OSU – Introduction to Unix/Linux and Command-line Data Analysis; Intro to R and RStudio; Intro to Python; RNA Sequencing, Genotyping by Sequencing. Summer Institute in Statistical Genetics at University of Washington – Association Mapping: GWAS and Sequencing data; Computational Pipeline for WGS Data

Diving: AAUS Scientific Research Diver (June 2017), PADI Open Water Diver/Advanced Open Water/Nitrox Diver

References

Dr. Rebecca Vega Thurber, Associate Professor
Department of Microbiology, Oregon State University
Tel. 541-737-1851 | Email. rvegathurber@gmail.com

Dr. Deron Burkepile, Associate Professor
Ecology, Evolution, and Marine Biology, UCSB
Tel. 805-893-3067 | Email. dburkepile@ucsb.edu

Dr. Adrienne M.S. Correa, Assistant Professor
Ecology and Evolutionary Biology, Rice University
Tel. 713-348-3054 | Email. adymscorrea@gmail.com

Dr. Krista Nichols, Genetics & Evolution Program Director
Conservation Biology Division, NWFSC, NOAA
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