

Marisa Agarwal

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Education

Sc.B. in Marine Biology – Honors
Brown University, 2021

Publications

Agarwal, M. 2017. First Record of *Dendronotus orientalis* (Baba, 1932) (Nudibranchia: Dendronotidae) in the Temperate Eastern Pacific. *BioInvasions Records*. 6(2): 135-138.

Awards

James Kidwell Prize in Genetics and Population Biology (\$1100) – Brown University, 2021
Fulbright Alternate Scholar – Fulbright Scholar Program, 2021
Sigma Xi Honor Society – Brown University Chapter, 2021
Exceptional Peer Advisor Award Finalist – Brown University, 2020
Voss Fellowship in Environmental Science (\$7500) – Brown University, 2020
Misaki Marine Biological Station Practical Course – University of Tokyo, 2020 **
International Undergraduate Teaching and Research Award (\$5000) – Brown University, 2019
Undergraduate Marine Conservation Scholarship (\$1000) – Women Divers Hall of Fame, 2019

Presentations and Posters

1. Abstract accepted to the 14th International Coral Reef Symposium (ICRS 2021): “Environmental Drivers of *Antipathes galapagensis* Populations in the Galápagos Marine Reserve”. Virtual session scheduled July, 2021.
2. “Ecology of a Foundation Species: Black Corals in the Galápagos Marine Reserve”. Brown University Senior Thesis Talks. March, 2021.
3. “Environmental and Ecological Drivers of Black Coral Populations in the Galápagos Marine Reserve”. 2020 Benthic Ecology Conference. April, 2020 **
4. “Update on long-term change and aspects of ecosystem function in the Galapagos Marine Reserve”. Charles Darwin Research Station. August, 2019.

Research Experience

Witman Lab Research Assistant & Lab Manager

September 2017 – Present, Brown University

Quantitatively analyzed benthic invertebrate community data from the Galápagos Islands, Ecuador to assess impact of temporal and oceanographic dynamics in the system. Performed video-based fish biodiversity and herbivory surveys to assess consumer pressure across biological and oceanographic gradients. Identified stony corals and measured colony bleaching. Assisted in the field with long-term subtidal monitoring projects via scientific diving. Trained peers in lab techniques and created data analysis protocols. Regularly presented research findings during weekly lab meetings. Managed lab logistics, data organization, and delegation of research efforts. Maintained lab social media and web outlets.

** accepted, but cancelled due to COVID-19 pandemic

Independent Thesis Research

March 2019 – Present, Brown University & Galápagos Islands, Ecuador

Conducted the first ecological survey of the depth distribution and health of black coral (*Antipathes galapagensis*) populations in the Galápagos Archipelago. Scientific SCUBA diving facilitated field assessments. Generated time series data to track changes in black coral health. Data analysis, visualization, and statistical routines carried out using R and JMP. Presented results to the Witman Lab, to faculty at the Charles Darwin Research Station, to managers of the Galápagos National Park, and to the Ecology & Evolutionary Biology Department at Brown University. Publication of results forthcoming.

Raimondi-Carr Lab Intern

June – August 2018, Long Marine Labs, University of California - Santa Cruz

Monitored recruitment and settlement patterns of subtidal invertebrates in the Monterey Bay, California via sample collection in the field and lab processing. Designed and constructed experimental exclusion cages to deploy in kelp forests to study sea star predation. Surveyed and maintained predation behavior mesocosm experiments.

Bernardi Lab Intern

June – August 2018, Long Marine Labs, University of California - Santa Cruz

Performed husbandry tasks (feeding, cleaning, & maintenance) for a goby species (*Gilliycthis mirabilis*). Constructed experimental insulated tanks and set up mesocosm experiments. Measured, weighed, and handled live fish.

Teaching and Mentorship

Invertebrate Zoology (BIOL 410) Teaching Assistant

September 2020 – December 2020, Brown University

Principles of Ecology (BIOL 420) Teaching Assistant

January 2020 – May 2020, Brown University

January 2021 – April 2021, Head TA, Brown University

Ecology and Evolutionary Biology Departmental Undergraduate Group (DUG) Leader

September 2019 – May 2021, Brown University

Organized events that promoted diversity and student-body engagement within the Ecology and Evolutionary Biology (EEB) Department at Brown University. Held and presented at panels to describe my undergraduate research path and connected students to departmental resources.

Women in Science and Engineering Mentor

September 2017 – May 2021, Brown University

Performed one-on-one monthly advising sessions for female-identifying first year STEM students. Mentored women on how to approach courses, research, and science at Brown and beyond.

Marine Science Institute Intern

May 2015 – August 2017, Marine Science Institute, Redwood City, CA

Educated elementary level students about Californian marine life. Oversaw aquarium maintenance, including feeding, cleaning, and equipment upgrades. Collected live plankton using tow nets to hand-rear pipefish.

Skills

PADI-certified SCUBA Diver

Completed 67 total dives (45 scientific dives) as of May, 2021. Rescue Diver, Red Cross CPR, and Enriched Air Nitrox certification. Underwater construction experience.

Technical

Microsoft Office Suite, Photoshop, biological modelling programs (MEGA, AlleleA1, Mesquite, Populus), iMovie, Autodesk Fusion 360 CAD Software, R, ImageJ, JMP, ArcGIS & QGIS

Additional Background

NCAA Division I Varsity Women's Swimming and Diving Team

September 2017 – May 2021, Brown University

Competitive diver, holding a spot as one of the University's top-ten scorers and qualifying for the NCAA Division I Zone Championships. Committed to 15+ hours of training per week. Volunteered at the Providence Boys and Girls Club to teach swim lessons to underserved children.

Club Participation

September 2017 – May 2021, Brown University

Brown Outing Club, South Asian Student Alliance, Brown's Organization for Multiracial and Biracial Students, Brown University Surf Club