

# VI International Rhodolith Workshop 2018

Beauregard Marsh

bcm2@hw.ac.uk

Marine Benthic Ecology, Biogeochemistry and In-situ Technology Research Group, The Lyell Centre for Earth and Marine Science and Technology, Heriot-Watt University, Edinburgh EH14 4AS, UK



In June of 2018, I had the pleasure of attending the VI International Rhodolith Workshop 2018 thanks to the generous support of Mineralogical Society. This workshop was hosted by Sophie Martin and Jacques Grall at the Station Biologique de Roscoff in the picturesque seaside town of Roscoff, France. Every three years since the first meeting in 2000, researchers from around the globe have gathered to discuss the ubiquitous and fascinating group of red coralline algae which form rhodoliths (also known as maerl). Rhodoliths are rigid nodules of calcium carbonate deposited by coralline algae. Much like a coral reef, their complex, 3-dimensional shape allow coralline algae to form large beds which support biodiverse ecosystems throughout the world's seas.

I was pleased to see what an impressive scope of research is being done on this particular group of algae by such an international community of scientists. I suppose it is not surprising given the expanse of rhodolith beds, from the tropics to the poles and down to the deepest mesophotic regions. Topics ranged from taxonomy to ecophysiology to paleoecology and more. This made for really dynamic discussions since participation included people from nearly every field of the earth sciences. For example, I learned about the different techniques being developed in order to use fossil rhodolith beds as biomarkers for past climate reconstructions. Also, there is a lot being done to measure how future ocean acidification projections may affect coralline algae. Due to the high Mg calcite which forms the skeleton of coralline algae, multiple researchers presented how growth rates of the algae can greatly decrease, whilst dissolution will increase. This is of great concern to scientists given their major role in the global carbon cycle. It certainly highlighted the global significance of coralline algae as both primary producers and marine calcifiers.

As a first year PhD student, I was excited to be giving my first oral presentation and be able to contribute to the conference. My research focuses on the photosynthetic mechanisms employed by red coralline algae. Something else interesting about this algae is that it is currently the deepest found photosynthesizer in the world; it has recently been found deeper than 330m! I presented the first results of my PhD which utilized 3D scanning technology to analyse how the physical structure of coralline algae, formed by its rigid calcite skeleton, may enhance light availability to its photosynthetic pigments. My presentation was well received, and I was lucky enough to be awarded a presentation award for which I was extremely grateful!

I would like to thank Mineralogical Society for supporting my participation at this meeting. It provided me valuable insights into potential new directions for my research, and I made new connections with researchers of similar interests. Thanks to the Mineralogical Society and the International Rhodolith Workshop, I now have exciting, international collaborations which will provide a great addition to my PhD. Overall, it was an invaluable experience, and I cannot wait to attend the next meeting in Newfoundland!