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PhD candidate 2013 to 2016

AIMS@JCU Project funds

School of Marine and Tropical Biology

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Viruses in black band disease: bacteriophages and phage therapy

Patrick completed his undergraduate studies in Germany at the Ruhr-University of Bochum and his masters degree at the University of Bremen in collaboration with the Alfred Wegener Institute. He is specialised in coral reef ecology, resilience, genetics with current focus on viruses and coral diseases.”

Although 30 coral diseases have been described, there is a paucity of research regarding their aetiology, which hinders the development of adequate management strategies. Viruses are the least studied member of coral reef communities, despite their ubiquitous abundance and likely contributions to both coral health and disease.

The overall objective of Patricks PhD is to characterise bacteriophages in the bacterial black band disease (BBD) of corals, in order to assess their potential as drivers or mitigators of the disease. BBD phages could further provide a foundation for the development of phage therapy - the treatment of a bacterial disease with pathogen-specific bacteriophages, a possibility he will also explore in his research.

If you want to know more or have any questions, don't hesitate to contact Patrick directly.

Publications

Buerger, P., Schmidt, G.M., Wall, M., Held, C., Richter, C. (2015), Temperature tolerance of the coral *Porites lutea* exposed to simulated large amplitude internal waves (LAIW). *Journal of Experimental Marine Biology and Ecology*. 471, 232-239. doi:10.1016/j.jembe.2015.06.014.

Lampert, K. P., Bürger, P., Striewski, S. and Tollrian, R. (2011), Lack of association between color morphs of the Jellyfish *Cassiopea andromeda* and zooxanthella clade. *Marine Ecology*. doi:10.1111/j.1439-0485.2011.00488.x.

Buerger, P., Schmidt, G.M., Khokiattiwong, S., Held, C., Richter, C. (2012). LAIW as a driving factor for coral reef resistance? *12th International Coral Reef Symposium*, Australia, 9-13 July 2012. Poster presentation.

Schmidt, G.M*, Wall, M., Jantzen, C., Bürger, P., Khokiattiwong, S., Richter, C. (2012). Solitons mitigate coral bleaching in the Andaman Sea: the *Porites* perspective. *12th International Coral Reef Symposium*, Australia, 9-13 July 2012.”

