



Protein expression in response to thermal and acidification stressors in the large benthic foraminifer *Marginopora vertebralis*, One Tree Island, Australia

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Large Benthic Foraminifera (LBF) account for a significant portion of calcium carbonate deposited in tropical coral reef sediments. These sediments serve a crucial role in coral reef ecosystems buffering changes in ocean chemistry. With rising concerns of marine organism responses to changing climates, it is important to accurately assess potential effects of both ocean warming and acidification on these reef calcifiers. *Marginopora vertebralis*, a common LBF found in protected tropical algal flats, were collected on One Tree Island, GBR, Australia, acclimated and exposed for 6 hours to three temperature (26°C ambient control, 28°C, and 30°C) and three pH (8.1 ambient control, 7.8, and 7.6) conditions (9 treatment groups). Bradford assays (total protein content), western blots and ELISA analyses were used to identify and quantify protein response in *M. vertebralis*. Initial results indicate a significant rise in protein expression as a results of both warming and acidification stressors with interactive effects. Further investigation of protein level responses and type will provide insights on how *M. vertebralis* may respond to predicted climate change scenarios. These results will improve overall understanding of climate change effects on benthic calcifiers and aid in forecasts of changing coral reef ecosystems.