Supplementary Material

Comparison of spatial and temporal genetic differentiation in a harmful dinoflagellate species emphasises impact of local processes

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# Supplementary Figures and Tables

Table S1: Environmental variables measured parallel to sampling of Gambierdiscus at USVI and included in the redundancy analysis.

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| **Measured environmental variables** |
| Amount of ***Gambierdiscus* cells** (cells/cm Dict) |
| Percent of **Coral cover** from total Benthos (out of 100%) |
| Percent of **Gorgonian cover** from total Benthos (out of 100%) |
| Percent of **Sponge cover** from total Benthos (out of 100%) |
| Percent of **Zoanthid cover** from total Benthos (out of 100%) |
| Percent of **Macroalgae cover** from total Benthos (out of 100%) |
| Percent of **Coralline cover** from total Benthos (out of 100%) |
| Percent of **Dead Coral with Turfalgae cover** from total Benthos (out of 100%) |
| Percent of **Non-Living Substrate cover** from total Benthos (out of 100%) |
| Percent of **Cyanobacteria cover** from total Benthos (out of 100%) |
| Percent of **Fleshy Macroalgae cover** out of the Macroalgae category % |
| Percent of***Dictyota spp*. cover** out of the Macroalgae category % |
| Percent of ***Halimeda spp*. cover** out of the Macroalgae category % |
| Percent of ***Lobophora variegata* cover** out of the Macroalgae category % |
| Percent of **Sand/Sediment cover** out of the Non-Living category % |
| **Orbital Velocity** (m/s) |
| **Peak Wave Period** |
| **Significant Wave Height** (m) |
| **Wave Power** (kW/m) |
| **Dominant Wave period** |
| **Wave direction** (degrees) |
| **max. Wave Height** (m) |
| **Surface Conductivity** (mS/cm) |
| **Surface Salinity** (Practical Salinity Units) |
| **Sea Surface Temperature** (°C) |
| Daily **Wind Speed** |
| **Wind Direction** on the sample date (degrees) |
| **Precipitation** from the Airport weather station |
| **Benthic Temperature** (°C) |
| **Number of coral** per 10 meter Transect |
| **Shannon Wiener Diversity Index** (H') |
| Percent of coral that are **impaired** at a site |
| Percent of coral that have any amount of **Disease** |
| Percent of coral that have any amount of **Bleaching** |
| Percent of coral that have any amount of **Old Mortality** |
| Percent of coral that have any amount of **Recent Mortality** |
| Percent of coral that have any **interactions with Macroalgae** |
| Percent of coral that have **Dictyota interactions** |
| Percent of coral that have **Lobophora interactions** |
| Percent of coral that have **Halimeda interactions** |
| Percent of coral that have **Cyanobacteria interactions** |
| Percent of coral that have **Cliona interactions** |
| Percent of coral that have **Sponge interactions** |
| Percent of coral that have **Sediment interactions** |
| **Ammonimum** (µM) |
| **Phosphorous** (µM) |
| **Nitrate and Nitrate** (µM) |