|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplementary Table S2.** Statistical analysis of environmental history and bleaching event effects on antioxidant enzymes and immune activity of *Montipora capitata.* | | | | | | | | | |
| *Dependent variable* | *Effect* | | *SS* | | *df* | | *F* | | *P* |
| Melanin | Period | 1.758 | | 3 | | 1055.892 | | **<0.001** | |
| (MEL) | Site | 0.300 × 10-3 | | 1 | | 0.556 | | 0.457 | |
|  | Symbiont | 0.040 × 10-3 | | 1 | | 0.071 | | 0.790 | |
|  | Period × Site | 0.016 | | 3 | | 9.738 | | **<0.001** | |
|  | Period × Symbiont | 0.002 | | 3 | | 1.311 | | 0.271 | |
|  | Site × Symbiont | 0.017 × 10-3 | | 1 | | 0.030 | | 0.863 | |
|  | Period × Site × Symbiont | 0.297 × 10-3 | | 3 | | 0.178 | | 0.911 | |
|  | Residual | 0.165 | | 298 | |  | |  | |
|  |  |  | |  | |  | |  | |
| Prophenoloxidase | Period | 8.112 | | 3 | | 207.503 | | **<0.001** | |
| (PPO) | Site | 0.055 | | 1 | | 4.227 | | **0.041** | |
|  | Symbiont | 0.054 | | 1 | | 4.135 | | **0.043** | |
|  | Period × Site | 0.002 | | 3 | | 0.051 | | 0.985 | |
|  | Period × Symbiont | 0.020 | | 3 | | 0.510 | | 0.676 | |
|  | Site × Symbiont | 0.069 × 10-3 | | 1 | | 0.005 | | 0.942 | |
|  | Period × Site × Symbiont | 0.001 | | 3 | | 0.031 | | 0.993 | |
|  | Residual | 3.857 | | 296 | |  | |  | |
|  |  |  | |  | |  | |  | |
| Peroxidase | Period | 1.657 | | 3 | | 16.504 | | **<0.001** | |
| (POX) | Site | 0.121 | | 1 | | 3.619 | | 0.058 | |
|  | Symbiont | 0.001 | | 1 | | 0.042 | | 0.838 | |
|  | Period × Site | 0.089 | | 3 | | 0.884 | | 0.450 | |
|  | Period × Symbiont | 0.363 | | 3 | | 3.612 | | **0.014** | |
|  | Site × Symbiont | 0.018 | | 1 | | 0.547 | | 0.460 | |
|  | Period × Site × Symbiont | 0.014 | | 3 | | 0.138 | | 0.937 | |
|  | Residual | 9.502 | | 284 | |  | |  | |
|  |  |  | |  | |  | |  | |
| Catalase | Period | 23.590 | | 3 | | 118.026 | | **<0.001** | |
| (CAT) | Site | 1.593 | | 1 | | 23.903 | | **<0.001** | |
|  | Symbiont | 0.586 | | 1 | | 8.798 | | **0.003** | |
|  | Period × Site | 2.096 | | 3 | | 10.488 | | **<0.001** | |
|  | Period × Symbiont | 0.391 | | 3 | | 1.958 | | 0.120 | |
|  | Site × Symbiont | 0.014 | | 1 | | 0.212 | | 0.645 | |
|  | Period × Site × Symbiont | 0.165 | | 3 | | 0.862 | | 0.480 | |
|  | Residual | 19.521 | | 293 | |  | |  | |
|  |  |  | |  | |  | |  | |
| Superoxide dismutase | Period | 5.397 × 106 | | 3 | | 83.207 | | **<0.001** | |
| (SOD) | Site | 0.105 × 106 | | 1 | | 4.867 | | **0.028** | |
|  | Symbiont | 0.032 × 106 | | 1 | | 1.500 | | 0.222 | |
|  | Period × Site | 0.038 × 106 | | 3 | | 0.578 | | 0.630 | |
|  | Period × Symbiont | 0.093 × 108 | | 3 | | 1.430 | | 0.234 | |
|  | Site × Symbiont | 0.008 × 106 | | 1 | | 0.378 | | 0.539 | |
|  | Period × Site × Symbiont | 0.041 × 106 | | 3 | | 0.630 | | 0.596 | |
|  | Residual | 6.465 × 106 | | 299 | |  | |  | |
| *Period* = Four events (first bleaching [October 2014], first recovery [February 2015], second bleaching [October 2015], second recovery [February 2016]); *Site* = two reef locations (Lilipuna and Reef 14); *Symbiont* = symbiont community dominated by *Cladocopium* sp. or *Durusdinium* sp. symbionts (C- or D-dominated). *SS* = sum of squares and *df* = degrees of freedom | | | | | | | | | |