|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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 | 1.713 | | 3 | | 1133.636 | | **<0.001** | |
| (MEL) | Site | 0.001 | | 1 | | 1.112 | | 0.292 | |
|  | Symbiont | 0.013 × 10-5 | | 1 | | 0.000 | | 0.987 | |
|  | Period × Site | 0.016 | | 3 | | 10.241 | | **<0.001** | |
|  | Period × Symbiont | 0.002 | | 3 | | 1.276 | | 0.283 | |
|  | Site × Symbiont | 9.972 × 10-5 | | 1 | | 0.198 | | 0.657 | |
|  | Period × Site × Symbiont | 0.257 × 10-3 | | 3 | | 0.170 | | 0.917 | |
|  | Residual | 0.150 | | 297 | |  | |  | |
|  |  |  | |  | |  | |  | |
| 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 | 3048.497 | | 3 | | 117.049 | | **<0.001** | |
| (CAT) | Site | 185.209 | | 1 | | 21.334 | | **<0.001** | |
|  | Symbiont | 80.983 | | 1 | | 9.328 | | **0.002** | |
|  | Period × Site | 228.314 | | 3 | | 8.766 | | **<0.001** | |
|  | Period × Symbiont | 57.881 | | 3 | | 2.222 | | 0.086 | |
|  | Site × Symbiont | 1.590 | | 1 | | 0.183 | | 0.669 | |
|  | Period × Site × Symbiont | 22.454 | | 3 | | 0.862 | | 0.461 | |
|  | Residual | 2526.337 | | 291 | |  | |  | |
|  |  |  | |  | |  | |  | |
| Superoxide dismutase | Period | 1.349 × 1010 | | 3 | | 83.207 | | **<0.001** | |
| (SOD) | Site | 2.631 × 108 | | 1 | | 4.867 | | **0.028** | |
|  | Symbiont | 8.110 × 107 | | 1 | | 1.500 | | 0.222 | |
|  | Period × Site | 9.381 × 107 | | 3 | | 0.578 | | 0.630 | |
|  | Period × Symbiont | 2.319 × 108 | | 3 | | 1.430 | | 0.234 | |
|  | Site × Symbiont | 3.041 × 107 | | 1 | | 0.378 | | 0.539 | |
|  | Period × Site × Symbiont | 1.021 × 108 | | 3 | | 0.630 | | 0.596 | |
|  | Residual | 1.616 × 1010 | | 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 | | | | | | | | | |