**Table S1.** Differentially-expressed genes (DEGs) for in situ and ex situ experiments, split into host (M. cavernosa) and symbiont (Cladocopium spp.) analyses. DEGs were quantified for factors in the respective experiments using the R package DESeq2, with contrasts statements to identify DEGs associated with pairwise comparisons of sites and sampling timepoints (in situ) and combined water/temperature treatment groups (ex situ). DEGs represented as significantly more-expressed (Up) or less-expressed (Down) in the first factor level over the second for pairwise comparisons.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Experiment** | **Description** | **Test** | ***M. cavernosa*** | | | ***Cladocopium* spp.** | | |
| **Up** | **Down** | **Total** | **Up** | **Down** | **Total** |
| *In situ* | Full model | time |  |  | 927 |  |  | 50 |
| site |  |  | 60 |  |  | 30 |
| time:site |  |  | 0 |  |  | 0 |
| Site comparisons | Ledge vs South | 19 | 36 | 55 | 21 | 21 | 42 |
| Central vs South | 19 | 34 | 53 | 11 | 9 | 20 |
| Central vs Ledge | 58 | 47 | 105 | 18 | 20 | 38 |
| Time comparisons | time 1 vs 0 | 173 | 740 | 913 | 16 | 32 | 48 |
| time 2 vs 0 | 738 | 188 | 926 | 32 | 17 | 49 |
| time 3 vs 0 | 747 | 180 | 927 | 36 | 14 | 50 |
| time 4 vs 0 | 730 | 197 | 927 | 37 | 13 | 50 |
| time 5 vs 0 | 740 | 187 | 927 | 37 | 13 | 50 |
| time 6 vs 0 | 691 | 235 | 926 | 35 | 15 | 50 |
| time 2 vs 1 | 769 | 158 | 927 | 38 | 11 | 49 |
| time 3 vs 1 | 765 | 162 | 927 | 39 | 11 | 50 |
| time 4 vs 1 | 758 | 169 | 927 | 39 | 11 | 50 |
| time 5 vs 1 | 762 | 164 | 926 | 39 | 11 | 50 |
| time 6 vs 1 | 751 | 173 | 924 | 38 | 12 | 50 |
| time 3 vs 2 | 665 | 262 | 927 | 40 | 10 | 50 |
| time 4 vs 2 | 505 | 422 | 927 | 38 | 12 | 50 |
| time 5 vs 2 | 581 | 346 | 927 | 37 | 13 | 50 |
| time 6 vs 2 | 380 | 547 | 927 | 35 | 15 | 50 |
| time 4 vs 3 | 308 | 619 | 927 | 14 | 36 | 50 |
| time 5 vs 3 | 323 | 604 | 927 | 16 | 34 | 50 |
| time 6 vs 3 | 227 | 698 | 925 | 13 | 37 | 50 |
| time 5 vs 4 | 494 | 433 | 927 | 34 | 16 | 50 |
| time 6 vs 4 | 339 | 588 | 927 | 21 | 29 | 50 |
| time 6 vs 5 | 299 | 628 | 927 | 19 | 31 | 50 |
| *Ex situ* | Full model | genotype |  |  | 1450 |  |  | 18 |
| temp | 725 | 850 | 1575 | 8 | 17 | 25 |
| water | 13 | 32 | 45 |  |  | 0 |
| genotype:temp |  |  | 26 |  |  | 0 |
| genotype:water |  |  | 0 |  |  | 0 |
| temp:water |  |  | 35 |  |  | 0 |
| tank:genotype |  |  | 3 |  |  | 0 |
| tank:temp |  |  | 20 |  |  | 0 |
| tank:water |  |  | 19 |  |  | 0 |
| Treatment comparisons | control discharge vs control offshore | 14 | 47 | 61 | 0 | 0 | 0 |
| elevated offshore vs control offshore | 13 | 43 | 56 | 2 | 8 | 10 |
| elevated discharge vs control offshore | 74 | 195 | 269 | 6 | 27 | 33 |
| elevated offshore vs control discharge | 2 | 11 | 13 | 2 | 1 | 3 |
| elevated discharge vs control discharge | 32 | 40 | 72 | 4 | 18 | 22 |
| elevated discharge vs elevated offshore | 12 | 19 | 31 | 0 | 0 | 0 |