**Table S1.** Number of quality sequences (reads), Good’s coverage, and alpha diversity indices of 16S rRNA gene profiles representing coral, sediment and seawater samples.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sample Type | Sample ID | reads | Coverage | OTUs | Chao Richness | Shannon Diversity |
| Coral | CAH1 | 9,045 | 0.99491 | 117 | 174.50 | 1.76 |
| CAH2 | 3,189 | 0.98213 | 125 | 188.84 | 1.55 |
| CAH3 | 2,509 | 0.97928 | 122 | 185.14 | 1.81 |
| CAB1 | 26,515 | 0.99864 | 272 | 297.20 | 3.64 |
| CAB2 | 27,577 | 0.99851 | 265 | 308.16 | 3.67 |
| CAB3 | 27,046 | 0.99919 | 207 | 226.25 | 3.59 |
| CTH1 | 72,965 | 0.99892 | 363 | 418.02 | 3.16 |
| CTH2 | 97,514 | 0.99917 | 406 | 461.86 | 3.25 |
| CTH3 | 88,041 | 0.99891 | 416 | 492.00 | 3.17 |
| CTB1 | 23,418 | 0.99761 | 235 | 268.48 | 1.92 |
| CTB2 | 17,654 | 0.99689 | 131 | 201.71 | 1.51 |
| CTB3 | 16,428 | 0.99702 | 158 | 201.56 | 1.86 |
| CCH1 | 3,932 | 0.98194 | 228 | 305.66 | 3.51 |
| CCH2 | 7,473 | 0.98943 | 272 | 337.55 | 2.98 |
| CCH3 | 4,967 | 0.98007 | 274 | 389.50 | 3.48 |
| CCB1 | 11,581 | 0.99568 | 188 | 233.37 | 3.60 |
| CCB2 | 22,542 | 0.99725 | 213 | 274.00 | 3.60 |
| CCB3 | 29,406 | 0.99793 | 245 | 308.10 | 3.63 |
| CRH1 | 1,134 | 0.94268 | 168 | 237.33 | 4.08 |
| CRH2 | 1,227 | 0.93154 | 212 | 280.35 | 4.27 |
| CRH3 | 1,155 | 0.92468 | 198 | 304.89 | 4.24 |
| CRB1 | 28,856 | 0.99633 | 423 | 532.12 | 3.93 |
| CRB2 | 28,546 | 0.99650 | 437 | 515.57 | 3.91 |
| CRB3 | 28,941 | 0.99689 | 390 | 501.25 | 3.91 |
| Sediment | S1 | 41,023 | 0.99764 | 525 | 596.63 | 3.80 |
| S2 | 31,485 | 0.99727 | 496 | 560.12 | 4.00 |
| S3 | 33,056 | 0.99698 | 493 | 586.40 | 3.77 |
| Seawater | W1 | 29,767 | 0.99832 | 191 | 249.33 | 3.15 |
| W2 | 27,256 | 0.99751 | 205 | 296.12 | 2.97 |
| W3 | 22,186 | 0.99815 | 171 | 216.56 | 3.11 |

**Table S2.** Number of quality sequences (reads), Good’s coverage and alpha diversity indices of 18S rRNA gene profiles representing coral, sediment and seawater samples.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sample Type | Sample ID | nseqs | Coverage | OTUs | Chao Richness | Shannon Diversity |
| Coral | CAH1 | 166,586 | 0.99996 | 53 | 57.20 | 0.72 |
| CAH2 | 462,762 | 0.99998 | 51 | 60.00 | 0.41 |
| CAH3 | 224,595 | 0.99998 | 48 | 49.20 | 0.73 |
| CAB1 | 172,314 | 0.99995 | 21 | 35.00 | 0.78 |
| CAB2 | 176,681 | 0.99997 | 21 | 23.50 | 0.78 |
| CAB3 | 133,494 | 0.99998 | 15 | 16.00 | 0.78 |
| CTH1 | 184,209 | 0.99992 | 38 | 64.25 | 0.98 |
| CTH2 | 120,564 | 0.99991 | 33 | 44.00 | 0.98 |
| CTH3 | 199,051 | 0.99995 | 36 | 45.17 | 0.93 |
| CTB1 | 236,505 | 0.99989 | 92 | 113.67 | 1.34 |
| CTB2 | 226,099 | 0.99997 | 66 | 68.15 | 1.59 |
| CTB3 | 205,510 | 0.99993 | 64 | 77.00 | 1.60 |
| CCH1 | 211,835 | 0.99994 | 46 | 59.00 | 0.87 |
| CCH2 | 160,768 | 0.99996 | 35 | 38.50 | 0.85 |
| CCH3 | 290,484 | 0.99994 | 44 | 78.00 | 0.86 |
| CCB1 | 157,674 | 0.99989 | 123 | 142.43 | 1.69 |
| CCB2 | 106,185 | 0.99986 | 106 | 115.55 | 1.64 |
| CCB3 | 231,158 | 0.99996 | 119 | 125.43 | 1.61 |
| CRH1 | 238,446 | 0.99988 | 92 | 137.11 | 1.20 |
| CRH2 | 180,163 | 0.99988 | 84 | 119.00 | 1.30 |
| CRH3 | 173,686 | 0.99991 | 84 | 95.67 | 1.28 |
| CRB1 | 185,576 | 0.99992 | 51 | 68.50 | 0.40 |
| CRB2 | 259,863 | 0.99995 | 75 | 82.09 | 0.50 |
| CRB3 | 192,026 | 0.99994 | 53 | 66.20 | 0.41 |
| Sediment | S1 | 246,595 | 0.99993 | 115 | 132.00 | 1.81 |
| S2 | 181,436 | 0.99989 | 169 | 188.00 | 2.13 |
| S3 | 356,039 | 0.99995 | 147 | 174.20 | 1.94 |
| Seawater | W1 | 122,582 | 0.99985 | 226 | 238.75 | 3.11 |
| W2 | 173,378 | 0.99989 | 214 | 226.67 | 2.47 |
| W3 | 127,650 | 0.99979 | 243 | 272.25 | 3.18 |

**Fig. S1.** Average alpha diversity Chao (OTU richness) and Shannon (OTU evenness) indices of (A and B) prokaryotes, and (C and D) microbial eukaryotes.



**Fig. S2.** Percent relative abundance of individual microbiota samples at phylum level, for (A) prokaryotes and (B) microbial eukaryotes.

Phyla with < 1% abundance were not displayed.



**Fig. S3.** Comparative frequencies of important coral-associated species.



**Fig. S3.** (Continued.)

