Supplementary Material

**Table S1** Coordinates and depth of gas bubbling sites (GBS) recorded during ROV dives near at the Baltimore Canyon (BC) and the Norfolk Canyon (NC).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BC (NF-08)** | **Lat.** | **Long.** | **Depth (m)** | **NC (J2-682)** | **Lat.** | **Long.** | **Depth (m)** |
| **GBS1** | 38.0491 | -73.8216 | 420.31 | **GBS1** | 36.8681856 | -74.488238 | 1567.7 |
| **GBS2** | 38.04902 | -73.8215 | 419.983 | **GBS2** | 36.8681888 | -74.48825 | 1567.66 |
| **GBS3** | 38.04899 | -73.8215 | 419.843 | **GBS3** | 36.869352 | -74.486919 | 1530.39 |
| **GBS4** | 38.04885 | -73.8215 | 420.404 | **GBS4** | 36.8697352 | -74.48739 | 1532.9 |
| **GBS5** | 38.04882 | -73.8214 | 420.17 | **GBS5** | 36.8697353 | -74.487387 | 1532.68 |
| **GBS6** | 38.04789 | -73.8214 | 417.227 | **GBS6** | 36.8692878 | -74.486882 | 1524.86 |
| **GBS7** | 38.04693 | -73.8215 | 416.387 |  |  |  |  |
| **GBS8** | 38.04806 | -73.8226 | 400.645 |  |  |  |  |
| **GBS9** | 38.04863 | -73.8226 | 402.56 |  |  |  |  |
| **BC (NF-14)** | **Lat.** | **Long.** | **Depth (m)** | **NC (J2-683)** | **Lat.** | **Long.** | **Depth (m)** |
| **GBS1** | 38.047945 | -73.827443 | 371.497 | **GBS1** | 36.8715378 | -74.477743 | 1487.84 |
| **GBS2** | 38.04551 | -73.827027 | 400.038 | **GBS2** | 36.8713516 | -74.475505 | 1480.64 |
| **GBS3** | 38.0487767 | -73.823802 | 389.761 | **GBS3** | 36.8712623 | -74.47546 | 1479.94 |
| **GBS4** | 38.0507317 | -73.823625 | 388.173 | **GBS4** | 36.8712379 | -74.47545 | 1479.53 |
| **GBS5** | 38.0508383 | -73.823632 | 387.519 | **GBS5** | 36.8712462 | -74.473872 | 1465.21 |
| **GBS6** | 38.05113 | -73.822805 | 394.152 | **GBS6** | 36.8711026 | -74.473667 | 1463.65 |
| **GBS7** | 38.0514267 | -73.822995 | 392.891 | **GBS7** | 36.8709439 | -74.473428 | 1460.61 |
| **GBS8** | 38.0498067 | -73.821677 | 415.499 | **GBS8** | 36.8709486 | -74.473262 | 1458.73 |
| **BC (J2-689)** | **Lat.** | **Long.** | **Depth (m)** |  |  |  |  |
| **GBS1** | 38.0469418 | -73.817094 | 433.7 |  |  |  |  |
| **GBS2** | 38.0469695 | -73.817058 | 435.35 |  |  |  |  |
| **GBS3** | 38.0472637 | -73.818577 | 437.61 |  |  |  |  |
| **GBS4** | 38.0474379 | -73.818705 | 438.25 |  |  |  |  |
| **GBS5** | 38.0474342 | -73.81883 | 436.14 |  |  |  |  |
| **GBS6** | 38.0475026 | -73.823275 | 388.32 |  |  |  |  |
| **GBS7** | 38.0472923 | -73.825039 | 373.83 |  |  |  |  |
| **GBS8** | 38.047179 | -73.82715 | 375.9 |  |  |  |  |

**Table S2** Coordinates and depth of microbial mats (MM) recorded during ROV dives near at the Baltimore Canyon (BC) and the Norfolk Canyon (NC).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BC (NF-07)** | **Lat.** | **Long.** | **Depth (m)** | **BC (NF-08)** | **Lat.** | **Long.** | **Depth (m)** |
| **MM1** | 38.04414 | -73.8293 | 422.319 | **MM14** | 38.04929 | -73.8224 | 404.709 |
| **MM2** | 38.04387 | -73.8262 | 413.304 | **MM15** | 38.04955 | -73.8224 | 406.017 |
| **MM3** | 38.04366 | -73.8257 | 412.51 | **MM16** | 38.04975 | -73.8221 | 407.371 |
| **MM4** | 38.04365 | -73.8258 | 411.342 | **MM17** | 38.05002 | -73.8224 | 406.344 |
| **MM5** | 38.04367 | -73.8258 | 411.902 | **MM18** | 38.05063 | -73.8233 | 405.83 |
| **MM6** | 38.04368 | -73.826 | 411.248 | **MM19** | 38.05061 | -73.8224 | 405.503 |
| **MM7** | 38.04387 | -73.8258 | 410.594 | **MM20** | 38.05066 | -73.8224 | 405.877 |
| **MM8** | 38.04384 | -73.8256 | 411.202 | **MM21** | 38.05072 | -73.8223 | 405.129 |
| **MM9** | 38.04375 | -73.8251 | 412.276 | **MM22** | 38.05092 | -73.8223 | 406.764 |
| **BC (NF-08)** | **Lat.** | **Long.** | **Depth (m)** | **BC (NF-14)** | **Lat.** | **Long.** | **Depth (m)** |
| **MM1** | 38.05025 | -73.821 | 430.26 | **MM1** | 38.0483 | -73.8259 | 378.411 |
| **MM2** | 38.05021 | -73.8211 | 429.933 | **MM2** | 38.04811 | -73.8276 | 372.432 |
| **MM3** | 38.04934 | -73.8212 | 423.533 | **MM3** | 38.04766 | -73.8275 | 376.402 |
| **MM4** | 38.04722 | -73.8215 | 417.134 | **MM4** | 38.0475 | -73.8275 | 381.634 |
| **MM5** | 38.0438 | -73.8255 | 409.894 | **MM5** | 38.04678 | -73.8272 | 388.967 |
| **MM6** | 38.04375 | -73.8257 | 410.408 | **MM6** | 38.04584 | -73.8274 | 400.598 |
| **MM7** | 38.04378 | -73.8256 | 410.641 | **MM7** | 38.0458 | -73.8274 | 400.925 |
| **MM8** | 38.0444 | -73.8257 | 408.399 | **MM8** | 38.04577 | -73.8274 | 400.458 |
| **MM9** | 38.04888 | -73.8226 | 404.522 | **MM9** | 38.04545 | -73.8273 | 401.906 |
| **MM10** | 38.0489 | -73.8225 | 404.802 | **MM10** | 38.04548 | -73.8272 | 402.794 |
| **MM11** | 38.04896 | -73.8224 | 405.41 | **MM11** | 38.0455 | -73.8269 | 401.626 |
| **MM12** | 38.04914 | -73.8224 | 405.036 | **MM12** | 38.04558 | -73.8267 | 400.879 |
| **MM13** | 38.04919 | -73.8224 | 405.176 | **MM13** | 38.04573 | -73.8266 | 400.458 |

**Table S2 (cont’d)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BC (NF-14)** | **Lat.** | **Long.** | **Depth (m)** | **NC (J2-682)** | **Lat.** | **Long.** | **Depth (m)** |
| **MM14** | 38.04834 | -73.8239 | 390.275 | **MM13** | 36.8664 | -74.4905 | 1593.85 |
| **MM15** | 38.04874 | -73.8239 | 389.715 | **MM14** | 36.86641 | -74.4905 | 1593.84 |
| **MM16** | 38.04878 | -73.8238 | 389.388 | **MM15** | 36.86641 | -74.4905 | 1592.47 |
| **MM17** | 38.04884 | -73.8238 | 389.294 | **MM16** | 36.86642 | -74.4904 | 1592.55 |
| **MM18** | 38.04883 | -73.8239 | 389.948 | **MM17** | 36.86643 | -74.4904 | 1592.42 |
| **MM19** | 38.04964 | -73.8238 | 391.116 | **MM18** | 36.86644 | -74.4904 | 1592.31 |
| **MM20** | 38.05009 | -73.8238 | 391.023 | **MM19** | 36.8665 | -74.4904 | 1591.13 |
| **MM21** | 38.05011 | -73.8238 | 391.163 | **MM20** | 36.86651 | -74.4904 | 1590.96 |
| **MM22** | 38.05014 | -73.8238 | 391.116 | **MM21** | 36.86656 | -74.4903 | 1590.1 |
| **MM23** | 38.05029 | -73.8238 | 389.901 | **MM22** | 36.86657 | -74.4903 | 1589.71 |
| **MM24** | 38.05143 | -73.8222 | 405.129 | **MM23** | 36.86661 | -74.4902 | 1590.32 |
| **MM25** | 38.05133 | -73.822 | 408.492 | **MM24** | 36.86664 | -74.4902 | 1589.78 |
| **MM26** | 38.05129 | -73.822 | 409.52 | **MM25** | 36.86666 | -74.4902 | 1590.17 |
| **BC (J2-689)** | **Lat.** | **Long.** | **Depth (m)** | **MM26** | 36.86655 | -74.4899 | 1593.85 |
| **MM1** | 38.04735 | -73.8258 | 373.96 | **MM27** | 36.86656 | -74.4899 | 1593.25 |
| **MM2** | 38.0472 | -73.8265 | 373.26 | **MM28** | 36.86657 | -74.4899 | 1593.63 |
| **MM3** | 38.0472 | -73.8267 | 374.71 | **MM29** | 36.86658 | -74.4898 | 1594 |
| **MM4** | 38.0472 | -73.8267 | 374.97 | **MM30** | 36.86657 | -74.4898 | 1594.41 |
| **MM5** | 38.04717 | -73.8271 | 376.49 | **MM31** | 36.86661 | -74.4898 | 1593.59 |
| **MM6** | 38.04716 | -73.8275 | 376.4 | **MM32** | 36.86668 | -74.4899 | 1591.65 |
| **MM7** | 38.04715 | -73.8275 | 377.12 | **MM33** | 36.86677 | -74.49 | 1589.13 |
| **MM8** | 38.04718 | -73.8277 | 377.27 | **MM34** | 36.86677 | -74.49 | 1588.08 |
| **MM9** | 38.04718 | -73.8277 | 376.9 | **MM35** | 36.86677 | -74.49 | 1587.91 |
| **MM10** | 38.04721 | -73.8279 | 375.96 | **MM36** | 36.86665 | -74.4899 | 1590.82 |
| **MM11** | 38.04723 | -73.8281 | 375.04 | **MM37** | 36.86664 | -74.4899 | 1590.37 |
| **MM12** | 38.04724 | -73.8281 | 374.21 | **MM38** | 36.86661 | -74.4897 | 1592.73 |
| **MM13** | 38.04741 | -73.8298 | 368.3 | **MM39** | 36.86672 | -74.4897 | 1589.36 |
| **MM14** | 38.04746 | -73.8299 | 368.04 | **MM40** | 36.86673 | -74.4897 | 1589.79 |
| **MM15** | 38.04762 | -73.8306 | 361.51 | **MM41** | 36.86699 | -74.4894 | 1588.63 |
| **MM16** | 38.04786 | -73.8296 | 364.04 | **MM42** | 36.867 | -74.4894 | 1588.17 |
| **MM17** | 38.04787 | -73.8295 | 364.45 | **MM43** | 36.867 | -74.4894 | 1587.93 |
| **MM18** | 38.04797 | -73.8292 | 365.15 | **MM44** | 36.86728 | -74.4892 | 1582.51 |
| **MM19** | 38.04798 | -73.8292 | 365.16 | **MM45** | 36.86828 | -74.4882 | 1564.07 |
| **MM20** | 38.04822 | -73.8285 | 362.6 | **MM46** | 36.87032 | -74.4875 | 1532.62 |
| **MM21** | 38.04814 | -73.8277 | 363.25 | **MM47** | 36.87024 | -74.4874 | 1532.07 |
| **MM22** | 38.04809 | -73.8274 | 364.08 | **MM48** | 36.87021 | -74.4875 | 1533.05 |
| **MM23** | 38.04804 | -73.8273 | 364.9 | **MM49** | 36.86903 | -74.4868 | 1542.02 |
| **MM24** | 38.04799 | -73.8265 | 366.79 | **MM50** | 36.86828 | -74.4869 | 1567.11 |
| **MM25** | 38.04915 | -73.8232 | 386.67 | **MM51** | 36.86652 | -74.4904 | 1590.85 |
| **MM26** | 38.04922 | -73.8232 | 386.63 | **MM52** | 36.86653 | -74.4904 | 1590.67 |
| **MM27** | 38.0493 | -73.8232 | 386.64 | **NC (J2-683)** | **Lat.** | **Long.** | **Depth (m)** |
| **MM28** | 38.04994 | -73.8232 | 386.34 | **MM1** | 36.87175 | -74.4782 | 1486.91 |
| **MM29** | 38.04996 | -73.8219 | 402.6 | **MM2** | 36.87153 | -74.4777 | 1486.83 |
| **MM30** | 38.04986 | -73.8219 | 400.66 | **MM3** | 36.87153 | -74.4777 | 1486.56 |
| **MM31** | 38.04951 | -73.8219 | 399.54 | **MM4** | 36.87142 | -74.4776 | 1486.88 |
| **NC (J2-682)** | **Lat.** | **Long.** | **Depth (m)** | **MM5** | 36.87137 | -74.4774 | 1485.6 |
| **MM1** | 36.86439 | -74.4929 | 1610.23 | **MM6** | 36.87137 | -74.4773 | 1484.82 |
| **MM2** | 36.86482 | -74.4918 | 1609.41 | **MM7** | 36.87126 | -74.4771 | 1484.59 |
| **MM3** | 36.86586 | -74.4908 | 1601.42 | **MM8** | 36.87121 | -74.4771 | 1485.64 |
| **MM4** | 36.86588 | -74.4908 | 1601.7 | **MM9** | 36.87122 | -74.477 | 1485.63 |
| **MM5** | 36.86587 | -74.4908 | 1601.62 | **MM10** | 36.87141 | -74.4764 | 1482.72 |
| **MM6** | 36.86588 | -74.4908 | 1601.6 | **MM11** | 36.87139 | -74.4763 | 1480.85 |
| **MM7** | 36.86599 | -74.4907 | 1600.12 | **MM12** | 36.87157 | -74.476 | 1479.05 |
| **MM8** | 36.86609 | -74.4906 | 1597.91 | **MM13** | 36.8716 | -74.476 | 1478.55 |
| **MM9** | 36.86613 | -74.4906 | 1596.5 | **MM14** | 36.87148 | -74.4756 | 1478.48 |
| **MM10** | 36.86618 | -74.4906 | 1595.28 | **MM15** | 36.87134 | -74.4755 | 1480.52 |
| **MM11** | 36.86621 | -74.4906 | 1594.07 | **MM16** | 36.87107 | -74.4749 | 1476.01 |
| **MM12** | 36.86639 | -74.4905 | 1592.71 | **MM17** | 36.87104 | -74.4748 | 1475.27 |

|  |  |  |  |
| --- | --- | --- | --- |
| **NC (J2-683)** | **Lat.** | **Long.** | **Depth (m)** |
| **MM18** | 36.87104 | -74.4748 | 1475.17 |
| **MM19** | 36.87104 | -74.4747 | 1475.05 |
| **MM20** | 36.87103 | -74.4747 | 1475.25 |
| **MM21** | 36.87088 | -74.4729 | 1456.2 |
| **MM22** | 36.87073 | -74.4729 | 1455.29 |
| **MM23** | 36.8707 | -74.4726 | 1454.14 |
| **MM24** | 36.87071 | -74.4726 | 1454.07 |
| **MM25** | 36.8703 | -74.4727 | 1463.93 |
| **MM26** | 36.8705 | -74.4735 | 1468.34 |
| **MM27** | 36.87052 | -74.4735 | 1467.63 |
| **MM28** | 36.87074 | -74.4744 | 1478.43 |
| **MM29** | 36.87114 | -74.4769 | 1485.03 |
| **MM30** | 36.87116 | -74.474 | 1467.74 |
| **MM31** | 36.87114 | -74.4741 | 1468.29 |

**Table S2 (cont’d)**

**Table S3** Coordinates and depth of frozen hydrates (FH) recorded during ROV dives near at the Baltimore Canyon (BC) and the Norfolk Canyon (NC).

|  |  |  |  |
| --- | --- | --- | --- |
| **FH (J2-682)** | **Lat.** | **Long.** | **Depth (m)** |
| **FH1** | 36.86928152 | -74.487 | 1532.42 |
| **FH2** | 36.86928779 | -74.4869 | 1524.86 |
| **FH3** | 36.86922555 | -74.4869 | 1526.9 |
| **FH (J2-683)** | **Lat.** | **Long.** | **Depth (m)** |
| **FH1** | 36.87135162 | -74.4755047 | 1480.64 |
| **FH2** | 36.87103892 | -74.4753010 | 1483.99 |

**Table S4** ANOSIM analysis for pairs of types of habitats in the Baltimore Canyon. R statistic and *p*-values are given. S: sand-mud; SDM: sand with dead mussels; SDM+LM:sand mixed with dead and live mussels; Mix: mixed hard soft; MixDM: mixed hard-soft with dead mussels; MixLM: mixed hard-soft with live mussels; MixDM+LM: mixed hard-soft with dead and live mussels.

|  |  |  |
| --- | --- | --- |
| **Global R: 0.184 ; *P*-value = 0.001** | | |
| **Groups** | **R Statistic** | ***P*-value** |
| S vs SDM | 0.066 | 0.001\* |
| S vs SDM+LM | 0.281 | 0.001\* |
| S vs. Mix | 0.214 | 0.001\* |
| S vs. MixDM | 0.265 | 0.001\* |
| S vs. MixLM | 0.257 | 0.17 |
| S vs. MixDM+LM | 0.382 | 0.001\* |
| SDM vs. SDM+LM | 0.176 | 0.001\* |
| SDM vs. Mix | 0.101 | 0.001\* |
| SDM vs. MixDM | 0.121 | 0.001\* |
| SDM vs. MixLM | 0.119 | 0.278 |
| SDM vs. MixDM+LM | 0.226 | 0.001\* |
| SDM+LM vs. Mix | 0.18 | 0.001\* |
| SDM+LM vs. MixDM | 0.16 | 0.001\* |
| SDM+LM vs. MixLM | 0.076 | 0.295 |
| SDM+LM vs. MixDM+LM | 0.208 | 0.001\* |
| Mix vs. MixDM | 0.036 | 0.03\* |
| Mix vs. MixLM | -0.115 | 0.698 |
| Mix vs. MixDM+LM | 0.094 | 0.001\* |
| MixDM vs. MixLM | -0.119 | 0.659 |
| MixDM vs. MixDM+LM | 0.011 | 0.290 |
| MixLM vs. MixDM+LM | -0.123 | 0.629 |

**Table S5** ANOSIM analysis for pairs of types of habitats in the Norfolk Canyon. R statistic and *p*-values are given. S: sand-mud; SDM: sand with dead mussels; SDM+LM:sand mixed with dead and live mussels; Mix: mixed hard soft; MixDM: mixed hard-soft with dead mussels; MixLM: mixed hard-soft with live mussels; MixDM+LM: mixed hard-soft with dead and live mussels.

|  |  |  |
| --- | --- | --- |
| **Global R: 0.101 ; *P*-value = 0.001** | | |
| **Groups** | **R Statistic** | ***P*-value** |
| S vs. SDM | 0.197 | 0.019\* |
| S vs. SDM+LM | 0.019 | 0.281 |
| S vs. MixDM+LM | 0.255 | 0.001\* |
| SDM vs. SDM+LM | 0.076 | 0.001\* |
| SDM vs. MixDM+LM | 0.632 | 0.001\* |
| SDM+LM vs. MixDM+LM | 0.057 | 0.049\* |

**Table S6** SIMPER analysis showing the taxa/morphotypes contributing to dissimilarity between habitats in the Baltimore Canyon (BC). “Contrib.%”: contribution to dissimilarity. “Cum.%”: Cumulative contribution to dissimilarity. Types of habitats: S: sand-mud; SDM: sand with dead mussels; SDM+LM:sand mixed with dead and live mussels; Mix: mixed hard soft; MixDM: mixed hard-soft with dead mussels; MixLM: mixed hard-soft with live mussels; MixDM+LM: mixed hard-soft with dead and live mussels.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Average Dissimilarity = 64.89** | |  |  |  |  |
|  | **Group S** | **Group SDM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.13 | 0.85 | 14.27 | 1.20 | 21.99 | 21.99 |
| *Chaceon quinquedens* | 0.54 | 0.37 | 8.67 | 0.93 | 13.36 | 35.35 |
| *Hormathia* sp. (White) | 0.31 | 0.45 | 8.06 | 0.80 | 12.42 | 47.77 |
| *Hyalinoecia* sp. | 0.55 | 0.61 | 7.50 | 0.90 | 11.56 | 59.33 |
| Red Shrimp | 0.46 | 0.34 | 7.15 | 0.90 | 11.02 | 70.36 |
|  | **Average Dissimilarity = 72.87** | |  |  |  |  |
|  | **Group S** | **Group SDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.13 | 0.48 | 13.99 | 1.20 | 19.19 | 19.19 |
| *Chaceon quinquedens* | 0.54 | 0.77 | 11.24 | 1.04 | 15.42 | 34.62 |
| *Hormathia* sp. (White) | 0.31 | 0.48 | 8.29 | 0.78 | 11.38 | 46.00 |
| *Hyalinoecia* sp. | 0.55 | 0.28 | 7.64 | 0.97 | 10.48 | 56.48 |
| Red Shrimp | 0.46 | 0.23 | 6.96 | 0.89 | 9.55 | 66.02 |
| *Actinoscyphia* sp. | 0.02 | 0.37 | 5.25 | 0.64 | 7.21 | 73.23 |
|  | **Average Dissimilarity = 69.71** | |  |  |  |  |
|  | **Group S** | **Group Mix** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.13 | 1.08 | 13.37 | 1.18 | 19.19 | 19.19 |
| *Hormathia* sp. (White) | 0.31 | 0.54 | 7.71 | 0.83 | 11.06 | 30.25 |
| *Chaceon quinquedens* | 0.54 | 0.26 | 7.34 | 0.88 | 10.54 | 40.78 |
| *Tomopaguropsis* sp. | 0.29 | 0.47 | 7.31 | 0.84 | 10.48 | 51.26 |
| *Hyalinoecia* sp. | 0.55 | 0.47 | 6.68 | 0.91 | 9.58 | 60.85 |
| Red Shrimp | 0.46 | 0.27 | 6.19 | 0.88 | 8.88 | 69.73 |
| *Polymastia* sp. | 0.01 | 0.54 | 5.26 | 0.55 | 7.55 | 77.28 |
|  | **Average Dissimilarity = 72.31** | |  |  |  |  |
|  | **Group S** | **Group MixDM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.13 | 0.82 | 13.22 | 1.19 | 18.28 | 18.28 |
| *Hormathia* sp. (White) | 0.31 | 0.97 | 10.84 | 1.10 | 14.99 | 33.27 |
| *Chaceon quinquedens* | 0.54 | 0.26 | 7.16 | 0.87 | 9.90 | 43.17 |
| *Hyalinoecia* sp. | 0.55 | 0.43 | 6.51 | 0.90 | 9.01 | 52.18 |
| Red Shrimp | 0.46 | 0.37 | 6.16 | 0.88 | 8.52 | 60.70 |
| *Tomopaguropsis* sp. | 0.29 | 0.33 | 5.83 | 0.73 | 8.06 | 68.76 |
| *Polymastia* sp. | 0.01 | 0.54 | 5.15 | 0.60 | 7.12 | 75.88 |
|  | **Average Dissimilarity = 76.46** | |  |  |  |  |
|  | **Group S** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.13 | 0.75 | 12.35 | 1.16 | 16.15 | 16.15 |
| *Hormathia* sp. (White) | 0.31 | 1.06 | 11.73 | 1.19 | 15.33 | 31.48 |
| *Polymastia* sp. | 0.01 | 0.86 | 8.77 | 0.77 | 11.47 | 42.95 |
| *Chaceon quinquedens* | 0.54 | 0.19 | 6.91 | 0.86 | 9.04 | 51.99 |
| *Hyalinoecia* sp. | 0.55 | 0.27 | 6.59 | 0.94 | 8.62 | 60.61 |
| Red Shrimp | 0.46 | 0.22 | 5.95 | 0.86 | 7.78 | 68.39 |
| *Tomopaguropsis* sp. | 0.29 | 0.19 | 5.03 | 0.62 | 6.58 | 74.97 |
|  | **Average Dissimilarity = 74.45** | |  |  |  |  |
|  | **Group SDM** | **Group SDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 0.85 | 0.48 | 12.14 | 1.09 | 16.31 | 16.31 |
| *Chaceon quinquedens* | 0.37 | 0.77 | 11.57 | 0.98 | 15.54 | 31.85 |
| *Hormathia* sp. (White) | 0.45 | 0.48 | 9.91 | 0.82 | 13.31 | 45.15 |
| *Hyalinoecia* sp. | 0.61 | 0.28 | 8.29 | 1.00 | 11.13 | 56.29 |
| Red Shrimp | 0.34 | 0.23 | 5.93 | 0.79 | 7.97 | 64.25 |
| *Actinoscyphia* sp. | 0.08 | 0.37 | 5.81 | 0.66 | 7.81 | 72.06 |
|  | **Average Dissimilarity = 71.03** | |  |  |  |  |
|  | **Group SDM** | **Group Mix** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 0.85 | 1.08 | 13.02 | 1.15 | 18.32 | 18.32 |
| *Hormathia* sp. (White) | 0.45 | 0.54 | 9.03 | 0.86 | 12.72 | 31.04 |
| *Tomopaguropsis* sp. | 0.26 | 0.47 | 7.36 | 0.82 | 10.36 | 41.40 |
| *Hyalinoecia* sp. | 0.61 | 0.47 | 6.99 | 0.90 | 9.84 | 51.23 |
| *Chaceon quinquedens* | 0.37 | 0.26 | 5.88 | 0.76 | 8.28 | 59.52 |
| *Polymastia* sp. | 0.01 | 0.54 | 5.44 | 0.55 | 7.65 | 67.17 |
| Red Shrimp | 0.34 | 0.27 | 5.32 | 0.79 | 7.49 | 74.66 |

**Table S6 (cont’d)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Average Dissimilarity = 72.61** | |  |  |  |  |
|  | **Group SDM** | **Group MixDM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 0.85 | 0.82 | 12.19 | 1.12 | 16.78 | 16.78 |
| *Hormathia* sp. (White) | 0.45 | 0.97 | 11.71 | 1.10 | 16.12 | 32.91 |
| *Hyalinoecia* sp. | 0.61 | 0.43 | 6.87 | 0.90 | 9.47 | 42.37 |
| *Chaceon quinquedens* | 0.37 | 0.26 | 5.87 | 0.75 | 8.09 | 50.46 |
| *Tomopaguropsis* sp. | 0.26 | 0.33 | 5.75 | 0.71 | 7.92 | 58.38 |
| Red Shrimp | 0.34 | 0.37 | 5.66 | 0.83 | 7.80 | 66.18 |
| *Polymastia* sp. | 0.01 | 0.54 | 5.32 | 0.60 | 7.33 | 73.50 |
|  | **Average Dissimilarity = 76.06** | |  |  |  |  |
|  | **Group SDM** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Hormathia* sp. (White) | 0.45 | 1.06 | 12.43 | 1.18 | 16.34 | 16.34 |
| *Bolocera tuediae* | 0.85 | 0.75 | 11.11 | 1.09 | 14.61 | 30.95 |
| *Polymastia* sp. | 0.01 | 0.86 | 9.03 | 0.77 | 11.87 | 42.82 |
| *Hyalinoecia* sp. | 0.61 | 0.27 | 7.14 | 0.97 | 9.38 | 52.21 |
| *Chaceon quinquedens* | 0.37 | 0.19 | 5.45 | 0.73 | 7.16 | 59.37 |
| *Actinoscyphia* sp. | 0.08 | 0.45 | 5.13 | 0.74 | 6.75 | 66.11 |
| Red Shrimp | 0.34 | 0.22 | 4.92 | 0.75 | 6.47 | 72.58 |
|  | **Average Dissimilarity = 78.35** | |  |  |  |  |
|  | **Group SDM+LM** | **Group Mix** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 0.48 | 1.08 | 12.36 | 1.14 | 15.77 | 15.77 |
| *Chaceon quinquedens* | 0.77 | 0.26 | 10.32 | 0.94 | 13.17 | 28.94 |
| *Hormathia* sp. (White) | 0.48 | 0.54 | 9.28 | 0.86 | 11.85 | 40.79 |
| *Hyalinoecia* sp. | 0.28 | 0.47 | 6.62 | 0.88 | 8.45 | 49.25 |
| *Tomopaguropsis* sp. | 0.03 | 0.47 | 6.50 | 0.74 | 8.30 | 57.55 |
| *Actinoscyphia* sp. | 0.37 | 0.26 | 6.18 | 0.75 | 7.88 | 65.43 |
| *Polymastia* sp. | 0.07 | 0.54 | 5.85 | 0.58 | 7.47 | 72.90 |
|  | **Average Dissimilarity = 77.03** | |  |  |  |  |
|  | **Group SDM+LM** | **Group MixDM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Hormathia* sp. (White) | 0.48 | 0.97 | 12.02 | 1.11 | 15.61 | 15.61 |
| *Bolocera tuediae* | 0.48 | 0.82 | 10.48 | 1.02 | 13.61 | 29.22 |
| *Chaceon quinquedens* | 0.77 | 0.26 | 9.92 | 0.93 | 12.88 | 42.10 |
| *Actinoscyphia* sp. | 0.37 | 0.30 | 6.19 | 0.75 | 8.03 | 50.14 |
| *Hyalinoec*ia sp. | 0.28 | 0.43 | 6.15 | 0.84 | 7.98 | 58.11 |
| *Polymastia* sp. | 0.07 | 0.54 | 5.71 | 0.63 | 7.41 | 65.53 |
| Red Shrimp | 0.23 | 0.37 | 5.26 | 0.79 | 6.82 | 72.35 |
|  | **Average Dissimilarity = 78.12** | |  |  |  |  |
|  | **Group SDM+LM** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Hormathia* sp. (White) | 0.48 | 1.06 | 12.85 | 1.21 | 16.45 | 16.45 |
| *Chaceon quinquedens* | 0.77 | 0.19 | 9.85 | 0.93 | 12.61 | 29.05 |
| *Bolocera tuediae* | 0.48 | 0.75 | 9.26 | 1.02 | 11.85 | 40.90 |
| *Polymastia* sp. | 0.07 | 0.86 | 9.23 | 0.79 | 11.82 | 52.72 |
| *Actinoscyphia* sp. | 0.37 | 0.45 | 6.81 | 0.86 | 8.72 | 61.44 |
| *Hyalinoecia* sp. | 0.28 | 0.27 | 5.32 | 0.74 | 6.81 | 68.25 |
| Red Shrimp | 0.23 | 0.22 | 4.20 | 0.66 | 5.38 | 73.63 |
|  | **Average Dissimilarity = 72.39** | |  |  |  |  |
|  | **Group Mix** | **Group MixDM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.08 | 0.82 | 11.96 | 1.13 | 16.52 | 16.52 |
| *Hormathia* sp. (White) | 0.54 | 0.97 | 10.37 | 1.07 | 14.33 | 30.85 |
| *Polymastia* sp. | 0.54 | 0.54 | 7.80 | 0.79 | 10.78 | 41.63 |
| *Tomopaguropsis* sp. | 0.47 | 0.33 | 6.57 | 0.82 | 9.08 | 50.71 |
| *Hyalinoecia* sp. | 0.47 | 0.43 | 5.87 | 0.86 | 8.11 | 58.82 |
| Red Shrimp | 0.27 | 0.37 | 4.76 | 0.80 | 6.58 | 65.40 |
| *Actinoscyphia* sp. | 0.26 | 0.30 | 4.64 | 0.66 | 6.41 | 71.80 |
|  | **Average Dissimilarity = 73.61** | |  |  |  |  |
|  | **Group Mix** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.08 | 0.75 | 11.16 | 1.13 | 15.16 | 15.16 |
| *Hormathia* sp. (White) | 0.54 | 1.06 | 10.77 | 1.12 | 14.63 | 29.79 |
| *Polymastia* sp. | 0.54 | 0.86 | 10.11 | 0.90 | 13.73 | 43.52 |
| *Tomopaguropsis* sp. | 0.47 | 0.19 | 6.28 | 0.76 | 8.53 | 52.05 |
| *Hyalinoecia* sp. | 0.47 | 0.27 | 5.73 | 0.86 | 7.79 | 59.84 |
| *Actinoscyphia* sp. | 0.26 | 0.45 | 5.53 | 0.81 | 7.51 | 67.34 |
| Red Shrimp | 0.27 | 0.22 | 3.87 | 0.69 | 5.26 | 72.60 |

**Table** **S7** SIMPER analysis showing the taxa/morphotypes contributing to dissimilarity between pairs of habitats in Norfolk Canyon (NC). “Contrib.%”: contribution of taxon/morphotype to dissimilarity. “Cum.%”: Cumulative contribution to dissimilarity. Types of habitats: S: sand-mud; SDM: sand with dead mussels; SDM+LM:sand mixed with dead and live mussels; Mix: mixed hard soft; MixDM: mixed hard-soft with dead mussels; MixLM: mixed hard-soft with live mussels; MixDM+LM: mixed hard-soft with dead and live mussels.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Average Dissimilarity = 64.97** | |  |  |  |  |
|  | **Group S** | **Group SDM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Ophiuroidea | 1.30 | 2.15 | 38.60 | 1.46 | 59.41 | 59.41 |
| Echinoidea 1 (White Morph) | 0.21 | 0.00 | 4.45 | 0.44 | 6.86 | 66.27 |
| Red Shrimp | 0.13 | 0.00 | 4.05 | 0.35 | 6.24 | 72.51 |
|  | **Average Dissimilarity = 92.08** | |  |  |  |  |
|  | **Group S** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Echinoidea 1 (White Morph) | 0.21 | 1.31 | 30.74 | 1.07 | 33.38 | 33.38 |
| Ophiuroidea | 1.30 | 0.14 | 28.13 | 1.15 | 30.54 | 63.92 |
| Echinoidea 2 (Red Morph) | 0.00 | 0.25 | 7.66 | 0.52 | 8.32 | 72.24 |
|  | **Average Dissimilarity = 77.58** | |  |  |  |  |
|  | **Group SDM** | **Group SDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Ophiuroidea | 2.15 | 0.83 | 42.17 | 1.59 | 54.36 | 54.36 |
| Echinoidea 1 (White Morph) | 0.00 | 0.42 | 10.81 | 0.60 | 13.93 | 68.30 |
| Echinoidea 2 (Red Morph) | 0.00 | 0.28 | 7.70 | 0.51 | 9.92 | 78.22 |
|  | **Average Dissimilarity = 96.21** | |  |  |  |  |
|  | **Group SDM** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Ophiuroidea | 2.15 | 0.14 | 41.56 | 1.71 | 43.20 | 43.20 |
| Echinoidea 1 (White Morph) | 0.00 | 1.31 | 27.44 | 1.01 | 28.52 | 71.73 |
|  | **Average Dissimilarity = 83.53** | |  |  |  |  |
|  | **Group SDM+LM** | **Group MixDM+LM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Echinoidea 1 (White Morph) | 0.42 | 1.31 | 31.55 | 1.17 | 37.77 | 37.77 |
| Ophiuroidea | 0.83 | 0.14 | 19.14 | 0.78 | 22.91 | 60.68 |
| Echinoidea 2 (Red Morph) | 0.28 | 0.25 | 11.79 | 0.71 | 14.12 | 74.80 |

**Table S8** SIMPER analysis showing the taxa/morphotypes contributing to dissimilarity between pairs of groups without and with microbial mats (MM) in a distance ≤ 20 m. “Contrib.%”: contribution of taxon/morphotype to dissimilarity. “Cum.%”: Cumulative contribution to dissimilarity.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Average Dissimilarity = 63.18** | |  |  |  |  |
| **BC (NF-07)** | **Group WithoutMM** | **Group WithMM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.58 | 0.61 | 15.06 | 1.39 | 23.84 | 23.84 |
| Red shrimp | 0.85 | 0.25 | 8.47 | 1.32 | 13.41 | 37.25 |
| *Hormathia* sp. white | 0.33 | 0.53 | 7.22 | 0.92 | 11.42 | 48.67 |
| *Chaceon quinquedens* | 0.58 | 0.21 | 6.89 | 0.93 | 10.91 | 59.58 |
| *Tomopaguropsis* sp. | 0.16 | 0.44 | 6.16 | 0.78 | 9.75 | 69.33 |
| *Hyalinoecia* sp. | 0.95 | 0.65 | 4.44 | 0.70 | 7.02 | 76.35 |
|  | **Average Dissimilarity = 69.29** | |  |  |  |  |
| **BC (NF-08)** | **Group WithoutMM** | **Group WithMM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.23 | 0.76 | 13.87 | 1.20 | 20.01 | 20.01 |
| *Hormathia* sp. white | 0.37 | 0.84 | 11.85 | 1.05 | 17.10 | 37.11 |
| *Chaceon quinquedens* | 0.52 | 0.34 | 8.55 | 0.90 | 12.34 | 49.46 |
| *Hyalinoecia* sp. | 0.37 | 0.40 | 7.29 | 0.86 | 10.51 | 59.97 |
| *Tomopaguropsis* sp. | 0.28 | 0.31 | 6.26 | 0.70 | 9.03 | 69.00 |
| *Actinoscyphia* sp. | 0.12 | 0.30 | 4.61 | 0.61 | 6.65 | 75.65 |
|  | **Average Dissimilarity = 76.18** | |  |  |  |  |
| **BC (NF-14)** | **Group WithoutMM** | **Group WithMM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Hormathia* sp. white | 0.32 | 1.05 | 13.97 | 1.15 | 18.33 | 18.33 |
| *Bolocera tuediae* | 0.97 | 0.52 | 13.90 | 1.11 | 18.24 | 36.57 |
| *Hyalinoecia* sp. | 0.53 | 0.54 | 7.57 | 0.90 | 9.93 | 46.50 |
| *Tomopaguropsis* sp. | 0.33 | 0.38 | 7.56 | 0.78 | 9.92 | 56.42 |
| Red shrimp | 0.47 | 0.05 | 6.81 | 0.86 | 8.94 | 65.36 |
| *Polymastia* sp. | 0.11 | 0.53 | 6.42 | 0.59 | 8.42 | 73.78 |
|  | **Average Dissimilarity = 69.48** | |  |  |  |  |
| **BC (J2-689)** | **Group WithoutMM** | **Group WithMM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Hormathia* sp. white | 0.53 | 1.21 | 12.27 | 1.22 | 17.66 | 17.66 |
| *Bolocera tuediae* | 0.74 | 0.37 | 8.95 | 0.94 | 12.88 | 30.54 |
| *Chaceon quinquedens* | 0.55 | 0.26 | 6.93 | 0.85 | 9.97 | 40.51 |
| Red shrimp | 0.53 | 0.41 | 5.88 | 0.91 | 8.47 | 48.98 |
| *Hyalinoecia* sp. | 0.45 | 0.53 | 5.85 | 0.91 | 8.42 | 57.40 |
| Comb jellies | 0.56 | 0.53 | 5.81 | 0.92 | 8.37 | 65.77 |
| *Tomopaguropsis* sp. | 0.23 | 0.36 | 5.27 | 0.69 | 7.58 | 73.35 |
|  | **Average Dissimilarity = 81.96** | |  |  |  |  |
| **NC (J2-683)** | **Group WithoutMM** | **Group WithMM** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Ophiuroidea | 1.44 | 0.74 | 34.40 | 1.22 | 41.97 | 41.97 |
| Echinoidea 1 (White morph) | 0.29 | 0.73 | 22.01 | 0.91 | 26.85 | 68.82 |
| Echinoidea 1 (Red morph) | 0.13 | 0.26 | 9.57 | 0.59 | 11.68 | 80.50 |

**Table S9** SIMPER analysis showing the taxa/morphotypes contributing to dissimilarity between pairs of groups without and with gas bubbling sites (GBS) in a distance ≤ 20 m. “Contrib.%”: contribution of taxon/morphotype to dissimilarity. “Cum.%”: Cumulative contribution to dissimilarity.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Average Dissimilarity = 73.41** | |  |  |  |  |
| **BC (NF-08)** | **Group WithoutGBS** | **Group WithGBS** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 1.21 | 0.58 | 15.65 | 1.15 | 21.32 | 21.32 |
| *Chaceon quinquedens* | 0.47 | 0.68 | 11.49 | 0.93 | 15.66 | 36.98 |
| *Hormathia* sp. white | 0.44 | 0.54 | 10.06 | 0.87 | 13.71 | 50.68 |
| *Hyalinoecia* sp. | 0.39 | 0.29 | 7.20 | 0.81 | 9.81 | 60.50 |
| *Actinoscyphia* sp. | 0.13 | 0.40 | 5.78 | 0.66 | 7.88 | 68.37 |
| *Tomopaguropsis* sp. | 0.30 | 0.17 | 5.57 | 0.64 | 7.59 | 75.96 |
|  | **Average Dissimilarity = 68.72** | |  |  |  |  |
| **BC (NF-14)** | **Group WithoutGBS** | **Group WithGBS** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 0.91 | 0.94 | 12.97 | 1.19 | 18.88 | 18.88 |
| *Hormathia* sp. white | 0.39 | 0.73 | 10.24 | 1.03 | 14.89 | 33.77 |
| *Hyalinoecia* sp. | 0.52 | 0.62 | 7.51 | 0.89 | 10.93 | 44.71 |
| *Chaceon quinquedens* | 0.35 | 0.30 | 7.03 | 0.76 | 10.23 | 54.93 |
| Red Shrimp | 0.43 | 0.22 | 6.60 | 0.84 | 9.61 | 64.54 |
| *Tomopaguropsis* sp. | 0.35 | 0.09 | 5.49 | 0.62 | 7.99 | 72.53 |
|  | **Average Dissimilarity = 69.27** | |  |  |  |  |
| **BC (J2-689)** | **Group WithoutGBS** | **Group WithGBS** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| *Bolocera tuediae* | 0.65 | 0.66 | 10.12 | 1.04 | 14.62 | 14.62 |
| *Hormathia* sp. white | 0.77 | 0.17 | 9.43 | 0.88 | 13.62 | 28.23 |
| *Chaceon quinquedens* | 0.45 | 0.67 | 9.08 | 0.99 | 13.11 | 41.35 |
| Comb jellies | 0.60 | 0.24 | 6.78 | 1.03 | 9.79 | 51.14 |
| *Hyalinoecia* sp. | 0.45 | 0.60 | 6.65 | 0.94 | 9.59 | 60.73 |
| Red shrimp | 0.51 | 0.47 | 6.49 | 0.91 | 9.36 | 70.09 |
|  | **Average Dissimilarity = 84.35** | |  |  |  |  |
| **NC (J2-683)** | **Group WithoutGBS** | **Group WithGBS** |  |  |  |  |
| **Species** | **Av. Abund.** | **Av. Abund.** | **Av. Diss.** | **Diss. / SD** | **Contrib.%** | **Cum.%** |
| Ophiuroidea | 1.26 | 0.50 | 29.98 | 1.06 | 35.54 | 35.54 |
| Echinoidea 1 (White morph) | 0.41 | 0.82 | 23.36 | 0.93 | 27.69 | 63.23 |
| Echinoidea 2 (Red morph) | 0.16 | 0.37 | 12.40 | 0.71 | 14.70 | 77.93 |