**Table A1** The coordinates, length (in meter), and slope of the three perpendicular transects in this study (T= total length, S= length in sandy part and R= length in rocky part)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Transects | Coordinates | Length (in meter) | | | Slope | | |
| **T** | **S** | **R** | **T** | **S** | **R** |
| Transect 1 | N 25° 26.592'  E 59° 31.004' | 137 | 37 | 100 | 3.5 | 3.8 | 3.2 |
| Transect 2 | N 25° 26.243'  E 59° 31.364' | 176 | 10 | 166 | 4.2 | 5.5 | 2.9 |
| Transect 3 | N 25° 25.838'  E 59° 31.624' | 228 | 20 | 208 | 4.4 | 7.0 | 1.9 |

**Table A2** The total and each sampling period’s mean (±SD) of six registered environmental factors in this study, the bolded cases are maximum or minimum

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| sampling | Water Temperature (°C) | Air  Temperature (°C) | pH | Dissolved Oxygen (Mg/l) | Oxygen Saturation Percent (%) | Salinity  (PSU) |
| First (N=9) | 29.48±1.06 | 30.11±1.51 | 7.56±.25 | **7.27±.50** | **119.56±6.22** | **35.1±0.7** |
| Second (N=9) | 31.14±1.93 | **32.53±3.02** | **7.20±.04** | **6.21±.52** | 100.44±10.41 | **38.6±1.0** |
| Third (N=9) | **22.86±1.28** | **23.62±2.64** | 7.27±.08 | 6.83±.71 | **106.44±11.34** | 38.0±1.1 |
| Fourth (N=9) | **31.20±1.36** | 31.73±1.27 | **8.01±.28** | 6.40±.51 | 110.56±7.93 | 38.1±0.9 |
| Total (N=36) | 28.67±3.73 | 29.50±4.14 | 7.51±.37 | 6.68±.68 | 109.25±11.27 | 37.4±1.6 |

**Table A3** Summary of results of SIMPER (similarity percent) analysis in PRIMER showing the species that most contributed to the assemblage differences of decapod crustaceans among sampling periods (S1 to S4 are first to fourth sampling), intertidal zones (H, M, and L. refer to High-, Mid- and Low-intertidal zones, respectively) and transects (T1, T2 and T3 refer to first, second and third transects, respectively) (abundance data was square root-transformed before analysis)

|  |  |
| --- | --- |
| SIMPER comparisons | Three most contributed species (in order of contribution percent in each comparison) |
| S1 vs. S2  (total average dissimilarity=  20.76) | 1. ***Pisidia dehaanii***(Krauss, 1843) (Anomura), contribution= 6.80%, average dissimilarity= 1.41 out of 20.76 total average, more average abundance in S2 (2.83) versus S1 (0.00) 2. ***Charybdis* (*Charybdis*) *hellerii***(A. Milne-Edwards, 1867) (Brachyura), contribution= 5.89%, average dissimilarity= 1.22 out of 20.76 total average, more average abundance in S2 (2.45) versus S1 (0.00) 3. ***Cyclodius drachi*** (Guinot, 1964) (Brachyura), contribution= 5.89%, average dissimilarity= 1.22 out of 20.76 total average, more average abundance in S2 (2.45) versus S1 (0.00) |
| S1 vs. S3  (total average dissimilarity= 36.02) | 1. ***Macromedaeus voeltzkowi*** (Lenz, 1905) (Brachyura), contribution= 6.86%, average dissimilarity= 2.47 out of 36.02 total average, more average abundance in S3 (5.74) versus S1 (0.00) 2. ***Petrolisthes leptocheles*** (Heller, 1861) (Anomura), contribution= 6.82%, average dissimilarity= 2.46 out of 36.02 total average, more average abundance in S3 (14.76) versus S1 (9.06) 3. ***Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution= 6.52%, average dissimilarity= 2.35 out of 36.02 total average, more average abundance in S3 (11.62) versus S1 (6.16) |
| S1 vs. S4  (total average dissimilarity=  31.03) | 1. ***Clibanarius signatus*** (Heller, 1861) (Anomura), contribution= 14.50%, average dissimilarity= 4.50 out of 31.03 total average, more average abundance in S4 (14.42) versus S1 (4.90) 2. ***Pseudozius caystrus*** (Adams & White, 1849) (Brachyura), contribution= 6.46%, average dissimilarity= 2.00 out of 31.03 total average, more average abundance in S4 (4.24) versus S1 (0.00) 3. ***Zozymodes cavipes*** (Dana, 1852) (Brachyura), contribution= 6.09%, average dissimilarity= 1.89 out of 31.03 total average, more average abundance in S4 (4.00) versus S1 (0.00) |
| S2 vs. S3  (total average dissimilarity=  30.84) | 1. ***Macromedaeus voeltzkowi*** (Lenz, 1905) (Brachyura), contribution= 7.14%, average dissimilarity= 2.20 out of 30.84 total average, more average abundance in S3 (5.74) versus S2 (0.00) 2. ***Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution= 5.22%, average dissimilarity= 1.61 out of 30.84 total average, more average abundance in S3 (11.62) versus S2 (7.42) 3. ***Clibanarius signatus*** (Heller, 1861) (Anomura), contribution= 4.82%, average dissimilarity= 1.49 out of 30.84 total average, more average abundance in S3 (9.54) versus S2 (5.66) |
| S2 vs. S4  (total average dissimilarity=  29.07) | 1. ***Clibanarius signatus*** *(Heller, 1861) (Anomura),* contribution*=* 12.55%, average dissimilarity= 3.65 out of 29.07 total average, more average abundance in S4 (14.42) versus S2 (5.66) 2. ***Pseudozius caystrus*** (Adams & White, 1849) (Brachyura), contribution= 6.07%, average dissimilarity= 1.77 out of 29.07 total average, more average abundance in S4 (4.24) versus S2 (0.00) 3. ***Zozymodes cavipes*** (Dana, 1852) (Brachyura), contribution= 5.73%, average dissimilarity= 1.66 out of 29.07 total average, more average abundance in S4 (4.00) versus S2 (0.00) |
| S3 vs. S4  (total average dissimilarity=  28.85) | 1. ***Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution = 8.30%, average dissimilarity= 2.40 out of 28.85 total average, more average abundance in S3 (11.62) versus S4 (5.10) 2. ***Pachycheles tomentosus*** (Henderson, 1893) (Anomura), contribution= 6.34%, average dissimilarity= 1.83 out of 28.85 total average, more average abundance in S3 (7.81) versus S4 (2.83) 3. ***Clibanarius signatus*** (Heller, 1861) (Anomura), contribution= 6.22%, average dissimilarity= 1.79 out of 28.85 total average, more average abundance in S4 (14.42) versus S3 (9.54) |
| H vs. M  (total average dissimilarity=  35.37) | 1. ***Alpheus lobidens*** (De Haan, 1849) (Caridea), contribution= 8.47%, average dissimilarity= 2.99 out of 35.37 total average, more average abundance in M (16.76) versus H (9.06) 2. ***Petrolisthes ornatus*** (Paulson, 1875) (Anomura), contribution= 6.68%, average dissimilarity= 2.36 out of 35.37 total average, more average abundance in M (6.08) versus H (0.00) 3. ***Petrolisthes leptocheles*** (Heller, 1861) (Anomura), contribution= 6.47%, average dissimilarity= 2.29 out of 35.37 total average, more average abundance in M (16.52) versus H (10.63) |
| H vs. L  (total average dissimilarity=  40.48) | 1. ***Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution= 11.35%, average dissimilarity= 4.64 out of 40.84 total average, more average abundance in L (14.25) versus H (2.24) 2. ***Pachycheles tomentosus*** (Henderson, 1893) (Anomura), contribution= 8.45%, average dissimilarity= 3.45 out of 40.84 total average, more average abundance in L (8.94) versus H (0.00) 3. ***Macromedaeus voeltzkowi*** (Lenz, 1905) (Brachyura), contribution= 3.87%, average dissimilarity= 1.58 out of 40.84 total average, more average abundance in L (5.10) versus H (1.00) |
| M vs. L  (total average dissimilarity=  28.63) | 1. ***Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution= 7.95%, average dissimilarity= 2.27 out of 28.63 total average, more average abundance in L (14.25) versus M (6.78) 2. ***Pachycheles tomentosus*** (Henderson, 1893) (Anomura), contribution= 4.64%, average dissimilarity= 1.33 out of 28.63 total average, more average abundance in L (8.94) versus M (4.58) 3. ***Zozymodes xanthoides*** (Krauss, 1843) (Brachyura), contribution= 4.32%, average dissimilarity= 1.24 out of 28.63 total average, more average abundance in M (5.48) versus L (1.41) |
| T1 vs. T2  (total average dissimilarity=  22.84) | 1. ***Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution= 11.15%, average dissimilarity= 2.55 out of 22.84 total average, more average abundance in T2 (12.45) versus T1 (5.29) 2. ***Pachycheles tomentosus*** (Henderson, 1893) (Anomura), contribution= 7.73%, average dissimilarity= 1.76 out of 22.84 total average, more average abundance in T2 (8.43) versus T1 (3.46) 3. ***Macromedaeus voeltzkowi*** (Lenz, 1905) (Brachyura), contribution= 4.67%, average dissimilarity= 1.07 out of 22.84 total average, more average abundance in T2 (3.00) versus T1 (0.00) |
| T1 vs. T3  (total average dissimilarity=  27.36) | 1. ***Macromedaeus voeltzkowi*** (Lenz, 1905) (Brachyura), contribution= 6.97%, average dissimilarity= 1.91 out of 27.36 total average, more average abundance in T3 (5.39) versus T1 (0.00) 2. ***Zozymodes xanthoides*** (Krauss, 1843) (Brachyura), contribution= 5.64%, average dissimilarity= 1.54 out of 27.36 total average, more average abundance in T1 (4.36) versus T3 (0.00) 3. ***Pilumnopeus convexus*** (Maccagno, 1936) (Brachyura), contribution= 5.43%, average dissimilarity= 1.49 out of 27.36 total average, more average abundance in T1 (5.20) versus T3 (1.00) |
| T2 vs. T3  (total average dissimilarity=  26.83) | **1*. Zozymodes xanthoides*** (Krauss, 1843) (Brachyura), contribution= 6.15%, average dissimilarity= 1.65 out of 26.83 total average, more average abundance in T2 (4.90) versus T3 (0.00)  **2. *Pachycheles natalensis*** (Krauss, 1843) (Anomura), contribution= 5.83%, average dissimilarity= 1.56 out of 26.83 total average, more average abundance in T2 (12.45) versus T3 (7.81)  **3. *Pachycheles tomentosus*** (Henderson, 1893) (Anomura), contribution= 5.25%, average dissimilarity= 1.41 out of 26.83 total average, more average abundance in T2 (8.43) versus T3 (4.24) |