**Supporting Information**

**Paper 4, Volume 58(2), 2017**: Spatio-temporal variation in phytoplankton communities along a salinity and pH gradient in a tropical estuary (Brunei, Borneo, South East Asia)

ROKSANA MAJEWSKA, AIMIMULIANI ADAM, NORMAWATY MOHAMMAD-NOOR, PETER CONVEY, MARIO DE STEFANO, DAVID J. MARSHALL

**Table S1**. Average of square-rooted abundances (cells ml-1) of phytoplankton taxa found at station 1 and 4, and their contribution to the dissimilarity observed between the groups (SIMPER).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Taxa | Av. abundance | | Av. dissimilarity | SD | Contribution (%) | Cumulated (%) |
| S1 | S4 |
| *Chaetoceros* spp. | 6.72 | 1.22 | 8.24 | 1.28 | 11.91 | 11.91 |
| *Leptocylindrus* sp. | 6.22 | 1.29 | 6.49 | 1.05 | 9.38 | 21.28 |
| *Nitzschia* spp. | 4.25 | 2.71 | 6.14 | 1.01 | 8.87 | 30.15 |
| *Pleurosigma* spp. | 4.82 | 1.25 | 5.98 | 1.16 | 8.64 | 38.79 |
| *Rhizosolenia* spp. | 3.04 | 2.23 | 4.74 | 1.01 | 6.85 | 45.64 |
| *Dinophysis* spp. | 2.54 | 2.05 | 4.68 | 0.92 | 6.76 | 52.41 |

**Table S2**. Average of square-rooted abundances (cells ml-1) of phytoplankton taxa found at station 1 and 3, and their contribution to the dissimilarity observed between the groups (SIMPER).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Taxa | Av. abundance | | Av. dissimilarity | SD | Contribution (%) | Cumulated (%) |
| S1 | S3 |
| *Leptocylindrus* sp. | 6.22 | 8.97 | 7.83 | 1.0 | 12.07 | 12.07 |
| *Chaetoceros* spp. | 6.72 | 4.59 | 6.77 | 1.19 | 10.44 | 22.52 |
| *Nitzschia* spp. | 4.25 | 6.78 | 6.23 | 0.95 | 9.6 | 32.12 |
| *Rhizosolenia* spp. | 3.04 | 8.65 | 6.11 | 0.94 | 9.43 | 41.55 |
| *Dinophysis* spp. | 2.54 | 3.91 | 4.96 | 0.86 | 7.65 | 49.19 |
| *Pleurosigma* spp. | 4.85 | 2.52 | 4.84 | 1.07 | 7.46 | 56.65 |

**Table S3**. Average of square-rooted abundances (cells ml-1) of phytoplankton taxa found at station 1 and 2, and their contribution to the dissimilarity observed between the groups (SIMPER).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Taxa | Av. abundance | | Av. dissimilarity | SD | Contribution (%) | Cumulated (%) |
| S1 | S2 |
| *Chaetoceros* spp. | 6.72 | 7.34 | 6.46 | 1.18 | 10.8 | 10.8 |
| *Nitzschia* spp. | 4.25 | 8.64 | 6.26 | 0.88 | 10.46 | 21.25 |
| *Leptocylindrus* sp. | 6.22 | 4.89 | 5.98 | 0.99 | 10.0 | 31.26 |
| *Rhizosolenia* spp. | 3.04 | 8.27 | 5.13 | 0.94 | 8.57 | 39.83 |
| *Dinophysis* spp. | 2.54 | 3.89 | 3.89 | 0.95 | 6.5 | 46.33 |
| *Thalassionema* spp. | 3.33 | 4.06 | 3.65 | 1.28 | 6.1 | 52.43 |

**Table S4**. Average of square-rooted abundances (cells ml-1) of phytoplankton taxa found at station 2 and 3, and their contribution to the dissimilarity observed between the groups (SIMPER).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Taxa | Av. abundance | | Av. dissimilarity | SD | Contribution (%) | Cumulated (%) |
| S3 | S2 |
| *Rhizosolenia* spp. | 8.65 | 8.27 | 7.78 | 1.05 | 12.34 | 12.34 |
| *Leptocylindrus* sp. | 8.97 | 4.89 | 6.81 | 0.87 | 10.8 | 23.14 |
| *Nitzschia* spp. | 6.78 | 8.64 | 6.7 | 0.83 | 10.62 | 33.76 |
| *Chaetoceros* spp. | 4.59 | 7.34 | 5.71 | 1.11 | 9.06 | 42.82 |
| *Dinophysis* spp. | 3.91 | 3.89 | 4.92 | 0.9 | 7.8 | 50.61 |
| *Thalassionema* spp. | 3.31 | 4.06 | 3.74 | 1.3 | 5.93 | 56.55 |

**Table S5**. Average of square-rooted abundances (cells ml-1) of phytoplankton taxa found at station 2 and 4, and their contribution to the dissimilarity observed between the groups (SIMPER).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Taxa | Av. abundance | | Av. dissimilarity | SD | Contribution (%) | Cumulated (%) |
| S4 | S2 |
| *Dinophysis* spp. | 2.05 | 3.91 | 7.32 | 0.91 | 10.83 | 10.83 |
| *Rhizosolenia* spp. | 2.23 | 8.65 | 7.18 | 0.82 | 10.63 | 21.45 |
| *Leptocylindrus* sp. | 1.29 | 8.97 | 6.9 | 0.86 | 10.21 | 31.66 |
| *Nitzschia* spp. | 2.71 | 6.78 | 6.02 | 0.86 | 8.91 | 40.57 |
| *Chaetoceros* spp. | 1.22 | 4.59 | 5.32 | 1.23 | 7.86 | 48.43 |
| *Pleurosigma* spp. | 1.25 | 2.52 | 3.94 | 1.05 | 5.83 | 54.26 |

**Table S6**. Average of square-rooted abundances (cells ml-1) of phytoplankton taxa found at station 3 and 4, and their contribution to the dissimilarity observed between the groups (SIMPER).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Taxa | Av. abundance | | Av. dissimilarity | SD | Contribution (%) | Cumulated (%) |
| S4 | S3 |
| *Rhizosolenia* spp. | 2.23 | 8.27 | 7.11 | 1.06 | 10.43 | 10.43 |
| *Chaetoceros* spp. | 1.22 | 7.34 | 6.75 | 1.21 | 9.9 | 20.33 |
| *Nitzschia* spp. | 2.71 | 8.64 | 6.6 | 0.84 | 9.69 | 30.02 |
| *Dinophysis* spp. | 2.05 | 3.89 | 5.4 | 1.0 | 7.92 | 37.94 |
| *Leptocylindrus* sp. | 1.29 | 4.89 | 5.04 | 0.86 | 7.38 | 45.32 |
| *Thalassionema* spp. | 1.12 | 4.06 | 4.03 | 1.24 | 5.9 | 51.22 |

**Fig. S1**. Biplot diagrams from RDA visualizing the partial effect of a) pH (after subtraction of the shared effect of pH and salinity) and b) salinity (after subtraction of the shared effect of pH and salinity) on phytoplankton taxa.

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**Fig. S2**. Biplot diagrams from RDA visualizing the partial effect of a) pH (after subtraction of the shared effect of pH and temperature) and b) temperature (after subtraction of the shared effect of pH and temperature) on phytoplankton taxa.

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