**Trophic ecology of two coexisting Sub-Antarctic limpets of the genus *Nacella*: Spatio-temporal variation in food availability and diet composition of *Nacella magellanica* and *N. deaurata* in the Sub-Antarctic Ecoregion of Magellan**

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**Table S1**.Systematic list of all algae taxa recorded, indicating their presence (+) in the winter and summer months, in Puerto del Hambre (P. Hambre) and Otway Sound (O. Sound).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | P. Hambre | | O. Sound | |
|  |  | Winter | Summer | Winter | Summer |
| **CYANOBACTERIA** | |  |  |  |  |
|  | *Chroococcus* sp. |  | + | + |  |
| **BACILLARIOPHYTA** | |  |  |  |  |
|  | *Achnanthes* sp. |  |  | + |  |
|  | *Cylindrotheca* sp. | + | + |  |  |
|  | *Coscinodiscus* sp. | + | + |  |  |
|  | *Cocconeis* sp. | + | + | + | + |
|  | *Cymbella* sp. | + | + |  | + |
|  | *Diploneis* sp. | + | + |  |  |
|  | *Diploneis* sp2. |  |  |  | + |
|  | *Fragilaria* sp. | + | + | + |  |
|  | *Grammatophora* sp. | + | + | + | + |
|  | *Licmophora* sp. | + | + | + | + |
|  | *Navicula* sp. | + | + | + | + |
|  | *Pinnularia* sp. | + | + | + | + |
|  | *Rhabdonema* sp. | + |  |  | + |
|  | *Surirella* sp. |  | + |  |  |
| **MIOZOA** | |  |  |  |  |
|  | *Dinophysis* sp. |  | + |  | + |
|  | *Prorocentrum lima* |  | + |  |  |
| **CHLOROPHYTA** | |  |  |  |  |
|  | *Bryopsis australis* |  |  |  | + |
|  | *Bryopsis* sp | + |  |  |  |
|  | *Chaetomorpha* sp | + |  |  |  |
|  | *Cladophora falklandica* |  | + |  | + |
|  | *Cladophora*sp | + |  |  |  |
|  | *Rhizoclonium tortuosum* |  | + |  |  |
|  | *Codium subantarcticum* | + | + |  |  |
|  | *Derbesia marina* |  | + |  |  |
|  | *Protomonostroma* sp | + |  |  |  |
|  | *Acrosiphonia arcta* |  |  |  | + |
|  | *Spongomorpha pacifica* | + | + | + | + |
|  | *Ulothrix* *implexa* | + | + |  |  |
|  | *Ulva clathrata* |  | + |  |  |
|  | *Ulva flexuosa* |  | + |  |  |
|  | *Ulva intestinalis* | + | + | + |  |
|  | *Ulva lactuca* | + | + | + | + |
|  | *Ulva torta* |  | + |  |  |
| **OCHROPHYTA** | |  |  |  |  |
|  | *Adenocystis utricularis* | + | + | + | + |
|  | *Caepidium antarcticum* |  | + |  |  |
|  | *Leathesia difformis* | + |  |  | + |
|  | *Cladostephus spongiosus* | + | + | + | + |
|  | *Durvillaea antarctica* |  |  | + | + |
|  | *Ectocarpus siliculosus* | + | + |  | + |
|  | *Petalonia fascia* | + | + |  |  |
|  | *Scytosiphon lomentaria* | + | + | + | + |
|  | *Scytothamnus fasciculatus* | + | + |  | + |
|  | *Halopteris funnicularis* | + |  | + | + |
| **RHODOPHYTA** | |  |  |  |  |
|  | *Acrochaetium* sp |  | + | + | + |
|  | *Ahnfeltia plicata* |  |  | + | + |
|  | *Ballia callitricha* | + | + | + | + |
|  | *Porphyra* sp1 | + | + |  | + |
|  | *Porphyra* sp2 |  | + | + | + |
|  | *Ptilonia magellanica* | + | + | + | + |
|  | *Bostrychia* sp |  |  | + | + |
|  | *Callithamnion gaudichaudii* | + | + | + | + |
|  | *Callithamnion montagnei* |  |  |  | + |
|  | *Ceramium diaphanum* |  | + | + |  |
|  | *Ceramium dozei* |  |  | + | + |
|  | *Ceramium pacificum* | + | + | + |  |
|  | *Ceramium stichidiosum* |  | + | + | + |
|  | *Ceramium virgatum* |  | + | + | + |
|  | *Acanthococcus antarcticus* |  |  | + | + |
|  | *Heterosiphonia berkeleyii* | + |  |  | + |
|  | *Heterosiphonia* sp1 | + | + |  | + |
|  | *Hymenena* sp |  |  | + |  |
|  | *Myriogramme* sp |  | + | + |  |
|  | *Schizoseris condensata* |  |  | + | + |
|  | *Chondria macrocarpa* |  |  | + | + |
|  | *Iridaea cordata* | + | + | + | + |
|  | *Mazzaella laminaroides* | + |  | + | + |
|  | *Sarcothalia crispata* |  | + | + | + |
|  | *Grateloupia* sp | + |  |  |  |
|  | *Phyllymenia* sp |  |  | + | + |
|  | *Ahnfeltiopsis furcellata* | + | + | + | + |
|  | *Plocamium* sp | + |  | + | + |
|  | *Lophurella hookeriana* | + | + | + | + |
|  | *Polysiphonia morrowii* | + | + | + | + |
|  | *Polysiphonia* sp1 |  | + |  |  |
|  | *Polysiphonia* sp2 |  | + |  | + |
|  | *Polysiphonia* sp3 |  |  | + |  |
|  | *Polysiphonia urceolata* |  | + |  |  |
|  | *Pterosiphonia* sp | + |  |  |  |

**Table S2**. Permutation analysis (PERMANOVA) of the composition of microalgae in Puerto del Hambre and Otway Sound. The design was of factorial type, considering localities, level and time. Data were based on Bray-Curtis dissimilarity and 9999 permutations were performed. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Source of variarion | df | SS | Pseudo-F | P |  |
|  |  |  |  |  |  |
| Localities (Lo) | 1 | 17297 | 7.888 | **0.0001\*** |  |
| Level (Le) | 1 | 9154 | 4.175 | **0.0009\*** |  |
| Time/Months (Ti) | 5 | 21848 | 1.993 | **0.0011\*** |  |
| Lo x Le | 1 | 9786 | 4.463 | **0.0007\*** |  |
| Lo x Ti | 5 | 77926 | 7.107 | **0.0001\*** |  |
| Le x Ti | 5 | 14633 | 1.335 | 0.0873 |  |
| Lo x Le x Ti | 5 | 15061 | 1.374 | **0.0265\*** |  |
| Res | 48 | 105250 |  |  |  |
| Total | 71 | 270960 |  |  |  |

**Table S3**. P-values for post-hoc comparisons conducted after PERMANOVA of composition of microalgae. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Localities | | Winter 1 | | Summer 1 | |
|  |  | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.0383\*** | **0.0195\*** | **0.0128\*** | **0.0221\*** |
|  |  | Winter 2 | | Summer 2 | |
|  | | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.0118\*** | **0.0174\*** | **0.0039\*** | **0.002\*** |
|  |  | Winter 2 | | Summer 2 | |
|  | | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.0037\*** | **0.0152\*** | **0.006\*** | **0.024\*** |
| Level | | P. hambre | | O. Sound | |
|  |  | Winter 1 | Summer 1 | Winter 1 | Summer 1 |
| Middle x Low | | 0.4582 | **0.0089\*** | 0.1570 | **0.0186\*** |
|  |  |  |  |  |  |
|  | | Winter 2 | Summer 2 | Winter 2 | Summer 2 |
| Middle x Low | | 0.3972 | **0.0141\*** | 0.2231 | **0.024\*** |
|  |  |  |  |  |  |
|  | | Winter 3 | Summer 3 | Winter 3 | Summer 3 |
| Middle x Low | | 0.4832 | **0.0028\*** | 0.2112 | **0.011\*** |
| Time/Months | | P. hambre | | O. Sound | |
|  |  | Middle | Low | Middle | Low |
| Winter 1 x Winter 2 | | 0.2905 | 0.5619 | 0.5894 | 0.4975 |
| Winter 1 x Winter 3 | | 0.5592 | 0.6126 | 0.3674 | 0.5854 |
| Winter 1 x Summer 1 | | **0.0424\*** | **0.0055\*** | **0.0145\*** | **0.015\*** |
| Winter 1 x Summer 2 | | **0.0255\*** | **0.0095\*** | **0.0111\*** | **0.024\*** |
| Winter 1 x Summer 3 | | **0.0252\*** | **0.0081\*** | **0.0097\*** | **0.0032\*** |
| Winter 2 x Winter 3 | | 0.7011 | 0.8024 | 0.7031 | 0.9165 |
| Winter 2 x Summer 1 | | **0.0106\*** | **0.0142\*** | **0.025\*** | **0.0282\*** |
| Winter 2 x Summer 2 | | **0.0061\*** | **0.0181\*** | **0.0366\*** | **0.0256\*** |
| Winter 2 x Summer 3 | | **0.0052\*** | **0.0189\*** | **0.0207\*** | **0.0165\*** |
| Winter 3 x Summer 1 | | **0.0284\*** | **0.0119\*** | **0.0091\*** | **0.0218\*** |
| Winter 3 x Summer 2 | | **0.0155\*** | **0.0141\*** | 0.0778 | 0.0638 |
| Winter 3 x Summer 3 | | **0.0148\*** | **0.012\*** | 0.0768 | 0.0723 |
| Summer 1 x Summer 2 | | 0.5557 | 0.4355 | 0.881 | 0.7647 |
| Summer 1 x Summer 3 | | 0.8713 | 0.6775 | 0.8513 | 0.6212 |
| Summer 2 x Summer 3 | | 0.4558 | 0.9067 | 0.9893 | 0.7988 |

**Table S4**. Permutation analysis (PERMANOVA) of the richness (S) and abundance (N) of macroalgaein Puerto del Hambre and Otway Sound. The design was of factorial type, considering localities, level and time. Data were based on Euclidean distance. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Source of variarion | df | SS | Pseudo-F | P |
|  |  |  |  |  |  |
| S | Localities (Lo) | 1 | 0.002 | 0.017 | 0.8976 |
|  | Level (Le) | 1 | 4.384 | 38.370 | **0.0001\*** |
|  | Time/Months (Ti) | 5 | 21.895 | 38.328 | **0.0001\*** |
|  | Lo x Le | 1 | 0.370 | 3.238 | 0.0857 |
|  | Lo x Ti | 5 | 0.837 | 1.464 | 0.2163 |
|  | Le x Ti | 5 | 1.012 | 1.771 | 0.1409 |
|  | Lo x Le x Ti | 5 | 0.290 | 0.507 | 0.7678 |
|  | Res | 48 | 5.484 |  |  |
|  | Total | 71 | 34.273 |  |  |
|  | |  |  | |  |
| N | Localities (Lo) | 1 | 8.0012 | 19.73 | **0.0001\*** |
|  | Level (Le) | 1 | 8.1621 | 20.1270 | **0.0001\*** |
|  | Time/Months (Ti) | 5 | 49.909 | 24.614 | **0.0001\*** |
|  | Lo x Le | 1 | 0.080 | 0.198 | 0.659 |
|  | Lo x Ti | 5 | 2.459 | 1.213 | 0.323 |
|  | Le x Ti | 5 | 3.150 | 1.554 | 0.193 |
|  | Lo x Le x Ti | 5 | 0.788 | 0.389 | 0.856 |
|  | Res | 48 | 19.465 |  |  |
|  | Total | 71 | 92.014 |  |  |

**Table S5.** P-values for post-hoc comparisons conducted after PERMANOVA of the richness (S) and abundance (N) of macroalgaein Puerto del Hambre and Otway Sound. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Level (S) | | P. hambre | | O. Sound | |
|  |  | Winter 1 | Summer 1 | Winter 1 | Summer 1 |
| Middle x Low | | **0.0146\*** | **0.0032\*** | 0.5388 | 0.3084 |
|  |  |  |  |  |  |
|  | | Winter 2 | Summer 2 | Winter 2 | Summer 2 |
| Middle x Low | | 0.0584 | **0.0016\*** | **0.047\*** | **0.0061\*** |
|  |  |  |  |  |  |
|  | | Winter 3 | Summer 3 | Winter 3 | Summer 3 |
| Middle x Low | | 0.7232 | **0.0474\*** | 0.2544 | 0.5359 |
| Time/Months (S) | | P. hambre | | O. Sound | |
|  |  | Middle | Low | Middle | Low |
| Winter 1 x Winter 2 | | 0.1032 | 0.1002 | 0.0655 | 0.194 |
| Winter 1 x Winter 3 | | 0.0973 | 0.0985 | 0.0588 | 0.1 |
| Winter 1 x Summer 1 | | **0.0147\*** | **0.0292\*** | **0.0488\*** | **0.0265\*** |
| Winter 1 x Summer 2 | | **0.004\*** | **0.002\*** | **0.0381\*** | **0.038\*** |
| Winter 1 x Summer 3 | | **0.0015\*** | **0.0007\*** | **0.0298\*** | **0.016\*** |
| Winter 2 x Winter 3 | | 0.051 | 0.1977 | 0.0895 | 0.1027 |
| Winter 2 x Summer 1 | | 0.1489 | 0.0137 | 0.4896 | 0.804 |
| Winter 2 x Summer 2 | | **0.0063\*** | 0.2834 | **0.0235\*** | 0.1894 |
| Winter 2 x Summer 3 | | **0.0007\*** | **0.0243\*** | **0.0031\*** | **0.0215\*** |
| Winter 3 x Summer 1 | | **0.0113\*** | **0.0034\*** | 0.1865 | **0.0338\*** |
| Winter 3 x Summer 2 | | 0.2488 | **0.0092\*** | 0.3549 | **0.0365\*** |
| Winter 3 x Summer 3 | | **0.0232\*** | 0.8324 | **0.0428\*** | 0.203 |
| Summer 1 x Summer 2 | | 0.0908 | 0.1069 | 0.119 | 0.2205 |
| Summer 1 x Summer 3 | | 0.0969 | 0.1052 | 0.0588 | 0.1048 |
| Summer 2 x Summer 3 | | 0.1035 | 0.0991 | 0.1456 | 0.1033 |
| Localities (N) | | Winter 1 | | Summer 1 | |
|  |  | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | 0.5246 | 0.8594 | 0.1177 | 0.7942 |
|  |  | Winter 2 | | Summer 2 | |
|  | | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.0224\*** | **0.0106\*** | **0.0015\*** | **0.0137\*** |
|  |  | Winter 2 | | Summer 2 | |
|  | | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.0097\*** | 0.1918 | **0.0041\*** | **0.0403\*** |
| Level (N) | | P. hambre | | O. Sound | |
|  |  | Winter 1 | Summer 1 | Winter 1 | Summer 1 |
| Middle x Low | | 0.2010 | 0.2674 | 0.5099 | 0.1206 |
|  |  |  |  |  |  |
|  | | Winter 2 | Summer 2 | Winter 2 | Summer 2 |
| Middle x Low | | 0.2069 | **0.0128\*** | 0.7668 | **0.0068\*** |
|  |  |  |  |  |  |
|  | | Winter 3 | Summer 3 | Winter 3 | Summer 3 |
| Middle x Low | | 0.5955 | **0.0044\*** | 0.1457 | **0.0244\*** |
| Time/Months (N) | | P. hambre | | O. Sound | |
|  |  | Middle | Low | Middle | Low |
| Winter 1 x Winter 2 | | 0.1014 | 0.0996 | 0.2357 | 0.0732 |
| Winter 1 x Winter 3 | | 0.0979 | 0.1002 | 0.1003 | 0.0563 |
| Winter 1 x Summer 1 | | **0.0017\*** | 0.1359 | **0.0025\*** | 0.4895 |
| Winter 1 x Summer 2 | | **0.0004\*** | **0.0231\*** | **0.012\*** | **0.0437\*** |
| Winter 1 x Summer 3 | | **0.0004\*** | **0.0045\*** | **0.0314\*** | **0.0272\*** |
| Winter 2 x Winter 3 | | 0.0972 | 0.099 | **0.0997** | 0.0858 |
| Winter 2 x Summer 1 | | **0.0124\*** | 0.7317 | **0.025\*** | 0.2443 |
| Winter 2 x Summer 2 | | **0.0006\*** | 0.5319 | **0.0072\*** | 0.0679 |
| Winter 2 x Summer 3 | | **0.001\*** | 0.0517 | **0.0024\*** | **0.0111\*** |
| Winter 3 x Summer 1 | | 0.6723 | 0.263 | 0.3221 | 0.1395 |
| Winter 3 x Summer 2 | | **0.0102\*** | **0.0361\*** | **0.016\*** | 0.9786 |
| Winter 3 x Summer 3 | | **0.0221\*** | 0.5693 | **0.0023\*** | 0.0842 |
| Summer 1 x Summer 2 | | 0.1702 | 0.9799 | 0.0969 | 0.1436 |
| Summer 1 x Summer 3 | | 0.0513 | 0.3958 | 0.1016 | 0.0688 |
| Summer 2 x Summer 3 | | 0.1225 | 0.1389 | 0.0992 | 0.0735 |

**Table S6**. Permutation analysis (PERMANOVA) of the composition of macroalge in Puerto del Hambre and Otway Sound. The design was of factorial type, considering localities, level and time. Data were based on Bray-Curtis dissimilarity and 9999 permutations were performed. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source of variarion | df | SS | Pseudo-F | P |
| Localities (Lo) | 1 | 40266 | 19.485 | **0.0001\*** |
| Level (Le) | 1 | 14709 | 7.118 | **0.0001\*** |
| Time/Months (Ti) | 5 | 21575 | 2.0881 | **0.0003\*** |
| Lo x Le | 1 | 9943 | 4.8116 | **0.0002\*** |
| Lo x Ti | 5 | 20659 | 1.9995 | **0.0002\*** |
| Le x Ti | 5 | 12886 | 1.2472 | **0.0312\*** |
| Lo x Le x Ti | 5 | 10775 | 1.0429 | **0.0022\*** |
| Res | 46 | 95059 |  |  |
| Total | 69 | 227780 |  |  |

**Table S7.** P-values for post-hoc comparisons conducted after PERMANOVA of the composition of macroalgae in Puerto del Hambre and Otway Sound. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Localities | | Winter 1 | | Summer 1 | |
|  |  | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.0002\*** | **0.0118\*** | **0.0008\*** | **0.0127** |
|  |  | Winter 2 | | Summer 2 | |
|  | | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.001\*** | **0.0305** | **0.0078\*** | **0.0071\*** |
|  |  | Winter 2 | | Summer 2 | |
|  | | Middle | Low | Middle | Low |
| P. Hambre x O. Sound | | **0.004\*** | **0.0026\*** | **0.006\*** | **0.0277\*** |
| Level | | P. hambre | | O. Sound | |
|  |  | Winter 1 | Summer 1 | Winter 1 | Summer 1 |
| Middle x Low | | **0.015\*** | **0.0009\*** | **0.0159\*** | **0.0012\*** |
|  |  |  |  |  |  |
|  | | Winter 2 | Summer 2 | Winter 2 | Summer 2 |
| Middle x Low | | **0.0281\*** | **0.0006\*** | 0.0593 | **0.0008\*** |
|  |  |  |  |  |  |
|  | | Winter 3 | Summer 3 | Winter 3 | Summer 3 |
| Middle x Low | | **0.0376\*** | **0.0004\*** | **0.039\*** | **0.0001\*** |
| Time/Months | | P. hambre | | O. Sound | |
|  |  | Middle | Low | Middle | Low |
| Winter 1 x Winter 2 | | 0.1107 | 0.2466 | 0.5894 | 0.4975 |
| Winter 1 x Winter 3 | | 0.2995 | 0.1983 | 0.3674 | 0.5854 |
| Winter 1 x Summer 1 | | **0.0001\*** | **0.0263\*** | **0.0001\*** | **0.001\*** |
| Winter 1 x Summer 2 | | **0.0001\*** | **0.0001\*** | **0.0001\*** | **0.0084\*** |
| Winter 1 x Summer 3 | | **0.0023\*** | **0.0022\*** | **0.0082\*** | **0.0002\*** |
| Winter 2 x Winter 3 | | 0.1004 | 0.8049 | 0.7031 | 0.9165 |
| Winter 2 x Summer 1 | | **0.0001\*** | **0.0001\*** | **0.0001\*** | **0.0052\*** |
| Winter 2 x Summer 2 | | **0.0001\*** | 0.0778 | **0.0001\*** | **0.0032\*** |
| Winter 2 x Summer 3 | | **0.0001\*** | **0.0001\*** | **0.0001\*** | **0.0015\*** |
| Winter 3 x Summer 1 | | **0.0002\*** | **0.0387\*** | **0.0002\*** | **0.0154\*** |
| Winter 3 x Summer 2 | | **0.0001\*** | 0.4973 | **0.0025\*** | **0.002\*** |
| Winter 3 x Summer 3 | | **0.0001\*** | 0.6999 | **0.0058\*** | **0.0078\*** |
| Summer 1 x Summer 2 | | 0.4033 | 0.7007 | 0.881 | 0.7647 |
| Summer 1 x Summer 3 | | 0.5971 | 0.5957 | 0.8513 | 0.6212 |
| Summer 2 x Summer 3 | | 0.4065 | 0.5013 | 0.9893 | 0.7988 |

**Table S8.** Permutation analysis (PERMANOVA) of the composition of microalgae in the gut content of *Nacella* in Puerto del Hambre and Otway Sound. The design was of factorial type, considering localities, specie and time. Data were based on Bray-Curtis dissimilarity and 9999 permutations were performed. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source of variarion | df | SS | Pseudo-*F* | *P* |
|  |  |  |  |  |
|  |  |  |  |  |
| Localities (Lo) | 1 | 40191 | 69.176 | **0.0001\*** |
| Specie (Sp) | 1 | 5447 | 9.3748 | **0.0001\*** |
| Time/Months (Ti) | 5 | 36447 | 12.546 | **0.0001\*** |
| Se x Lo | 1 | 6903 | 11.881 | **0.0001\*** |
| Se x Sp | 5 | 19282 | 6.6374 | **0.0001\*** |
| Lo x Sp | 5 | 11689 | 4.0236 | **0.0001\*** |
| Se x Lo x Sp | 5 | 9835 | 3.3856 | **0.0001\*** |
| Res | 216 | 125500 |  |  |
| Total | 239 | 255290 |  |  |

**Table S9.** P-values for post-hoc comparisons conducted after PERMANOVA of the composition of microalgae in the gut content of *Nacella* in Puerto del Hambre and Otway Sound. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Localities | | Winter 1 | | Summer 1 | |
|  |  | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| P. Hambre x O. Sound | | **0.0006\*** | **0.0002\*** | **0.0001\*** | **0.0003\*** |
|  |  | Winter 2 | | Summer 2 | |
|  | | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| P. Hambre x O. Sound | | **0.0001\*** | **0.0001\*** | **0.0001\*** | **0.0013\*** |
|  |  | Winter 3 | | Summer 3 | |
|  | | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| P. Hambre x O. Sound | | **0.0001\*** | **0.0005\*** | **0.0001\*** | **0.0002\*** |
| Species | | P. hambre | | O. Sound | |
|  |  | Winter 1 | Summer 1 | Winter 1 | Summer 1 |
| *N. deaurata* x *N. magellanica* | | 0.2575 | **0.0174\*** | 0.5662 | **0.0001\*** |
|  |  |  |  |  |  |
|  | | Winter 2 | Summer 2 | Winter 2 | Summer 2 |
| *N. deaurata* x *N. magellanica* | | **0.0006\*** | **0.0001\*** | **0.0212\*** | **0.0001\*** |
|  |  |  |  |  |  |
|  | | Winter 3 | Summer 3 | Winter 3 | Summer 3 |
| *N. deaurata* x *N. magellanica* | | **0.0007\*** | **0.0003\*** | **0.0312\*** | **0.0005\*** |
| Time/Months | | P. hambre | | O. Sound | |
|  |  | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| Winter 1 x Winter 2 | | 0.0638 | 0.0529 | 0.2648 | 0.0537 |
| Winter 1 x Winter 3 | | **0.0442\*** | 0.0631 | 0.0551 | 0.22 |
| Winter 1 x Summer 1 | | **0.001\*** | **0.0044\*** | **0.0027\*** | **0.0006\*** |
| Winter 1 x Summer 2 | | **0.0001\*** | **0.014\*** | **0.0019\*** | **0.0002\*** |
| Winter 1 x Summer 3 | | **0.0002\*** | **0.0017\*** | **0.0008\*** | **0.0001\*** |
| Winter 2 x Winter 3 | | 0.2316 | 0.4072 | 0.2538 | 0.6885 |
| Winter 2 x Summer 1 | | **0.0002\*** | **0.0003\*** | **0.0001\*** | **0.0003\*** |
| Winter 2 x Summer 2 | | **0.0001\*** | **0.0001\*** | **0.0002\*** | **0.0003\*** |
| Winter 2 x Summer 3 | | **0.0001\*** | **0.0014\*** | **0.0001\*** | **0.0001\*** |
| Winter 3 x Summer 1 | | **0.0001\*** | **0.0004\*** | **0.0001\*** | **0.0019\*** |
| Winter 3 x Summer 2 | | **0.0001\*** | **0.0001\*** | **0.0006\*** | **0.0005\*** |
| Winter 3 x Summer 3 | | **0.0001\*** | **0.0004\*** | **0.0001\*** | **0.0003\*** |
| Summer 1 x Summer 2 | | 0.0702 | 0.199 | 0.3543 | 0.0797 |
| Summer 1 x Summer 3 | | **0.0413\*** | **0.0344\*** | 0.0569 | 0.0556 |
| Summer 2 x Summer 3 | | 0.1225 | 0.2172 | 0.0725 | 0.0928 |

**Table S10.** Analysis of permutations (PERMANOVA) of the composition of macroalgae and invertebrates in the gut content of *Nacella* in Puerto del Hambre and Otway Sound. The design was of factorial type, considering localities, specie and time. Data were based on Bray-Curtis dissimilarity and 9999 permutations were performed. Numbers in bold with asterisks indicate significant differences (p <0.05).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source of variarion | df | SS | Pseudo-F | *P* |
|  |  |  |  |  |
|  |  |  |  |  |
| Localities (Lo) | 1 | 24102 | 9.6623 | **0.0001\*** |
| Specie (Sp) | 1 | 41751 | 16.737 | **0.0001\*** |
| Time/Months (Ti) | 5 | 45684 | 3.6628 | **0.0001\*** |
| Se x Lo | 1 | 14509 | 5.8165 | **0.0001\*** |
| Se x Sp | 5 | 75275 | 6.0353 | **0.0001\*** |
| Lo x Sp | 5 | 34682 | 2.7807 | **0.0001\*** |
| Se x Lo x Sp | 5 | 43277 | 3.4698 | **0.0001\*** |
| Res | 206 | 513860 |  |  |
| Total | 229 | 801140 |  |  |

**Table S11.** P-values for post-hoc comparisons conducted after PERMANOVA of the composition of macroalgae and invertebrates in the gut content of *Nacella* in Puerto del Hambre and Otway Sound. Numbers in bold with asterisks indicate significant differences (p < 0.05).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Localities | | Winter 1 | | Summer 1 | |
|  |  | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| P. Hambre x O. Sound | | **0.0007\*** | **0.0002\*** | **0.0001\*** | **0.0001\*** |
|  |  | Winter 2 | | Summer 2 | |
|  | | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| P. Hambre x O. Sound | | **0.0001\*** | **0.0269\*** | **0.0001\*** | **0.0015\*** |
|  |  | Winter 3 | | Summer 3 | |
|  | | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| P. Hambre x O. Sound | | **0.0005\*** | 0.1351 | **0.0002\*** | **0.0007\*** |
| Species | | P. hambre | | O. Sound | |
|  |  | Winter 1 | Summer 1 | Winter 1 | Summer 1 |
| *N. deaurata* x *N. magellanica* | | 0.2230 | **0.0129\*** | **0.0047\*** | **0.0001\*** |
|  |  |  |  |  |  |
|  | | Winter 2 | Summer 2 | Winter 2 | Summer 2 |
| *N. deaurata* x *N. magellanica* | | **0.0002\*** | **0.0001\*** | **0.0003\*** | **0.0001\*** |
|  |  |  |  |  |  |
|  | | Winter 3 | Summer 3 | Winter 3 | Summer 3 |
| *N. deaurata* x *N. magellanica* | | **0.0001\*** | **0.0003\*** | 0.0587 | **0.0005\*** |
| Time/Months | | P. hambre | | O. Sound | |
|  |  | *N. deaurata* | *N. magellanica* | *N. deaurata* | *N. magellanica* |
| Winter 1 x Winter 2 | | 0.0548 | 0.1265 | 0.1975 | 0.1979 |
| Winter 1 x Winter 3 | | 0.6647 | 0.1758 | 0.2854 | 0.0625 |
| Winter 1 x Summer 1 | | **0.0178\*** | **0.0003\*** | **0.0001\*** | **0.0001\*** |
| Winter 1 x Summer 2 | | **0.0001\*** | **0.0088\*** | **0.0001\*** | **0.0001\*** |
| Winter 1 x Summer 3 | | **0.0046\*** | **0.0309\*** | **0.0001\*** | **0.0001\*** |
| Winter 2 x Winter 3 | | 0.2198 | 0.7836 | 0.5872 | 0.0577 |
| Winter 2 x Summer 1 | | **0.0001\*** | **0.0002\*** | **0.0001\*** | **0.0012\*** |
| Winter 2 x Summer 2 | | **0.0001\*** | **0.0237\*** | **0.0001\*** | **0.0009\*** |
| Winter 2 x Summer 3 | | **0.0001\*** | **0.0171\*** | **0.0001\*** | **0.0079\*** |
| Winter 3 x Summer 1 | | **0.0004\*** | **0.0144\*** | **0.0002\*** | **0.0004\*** |
| Winter 3 x Summer 2 | | **0.0001\*** | **0.0005\*** | **0.0003\*** | **0.0005\*** |
| Winter 3 x Summer 3 | | **0.0004\*** | 0.1907 | **0.0001\*** | **0.0007\*** |
| Summer 1 x Summer 2 | | **0.0402\*** | 0.1974 | **0.0381\*** | 0.3319 |
| Summer 1 x Summer 3 | | 0.0519 | 0.0935 | 0.3463 | 0.2693 |
| Summer 2 x Summer 3 | | 0.4318 | **0.0387\*** | 0.0693 | 0.1056 |