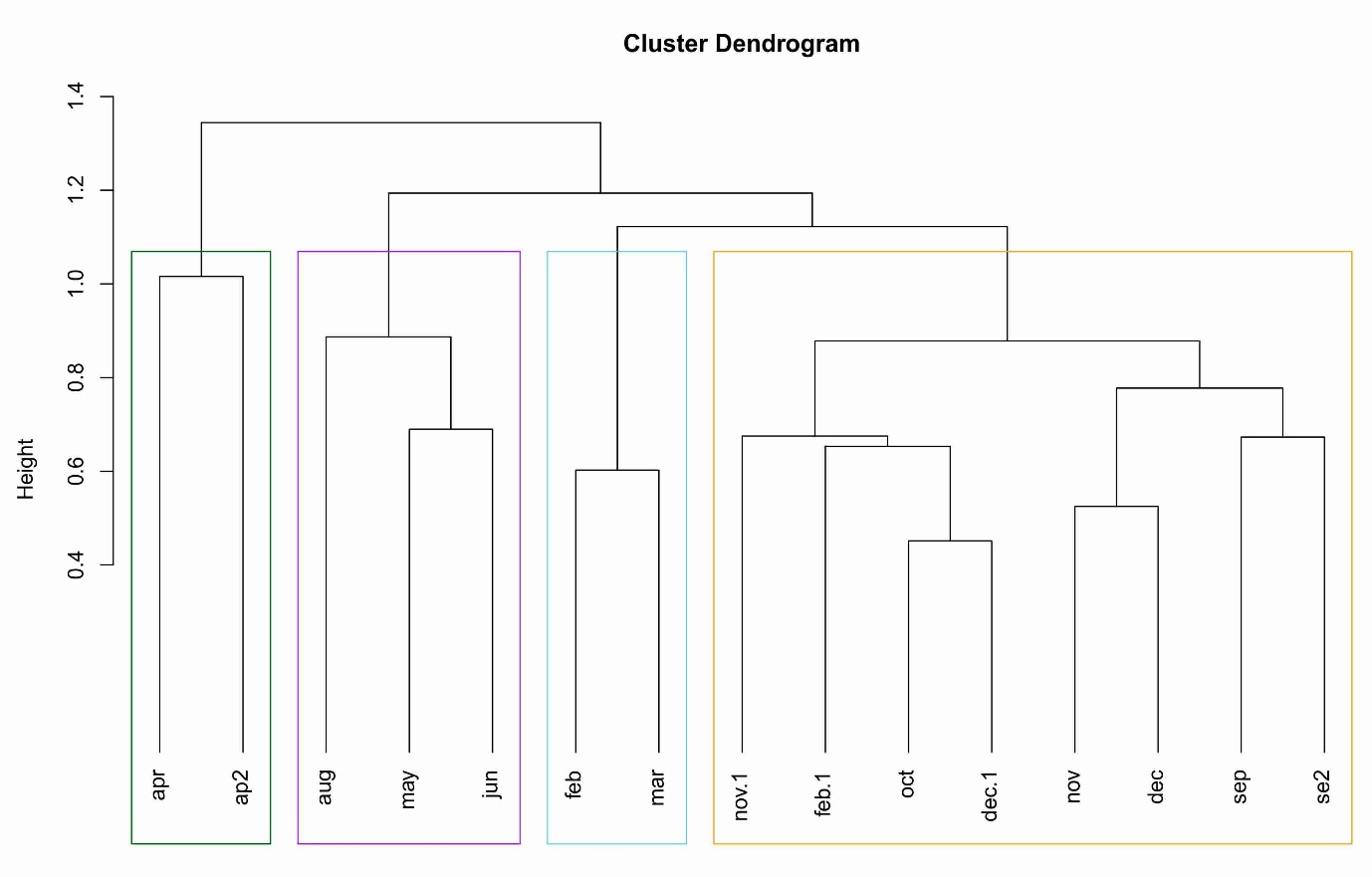
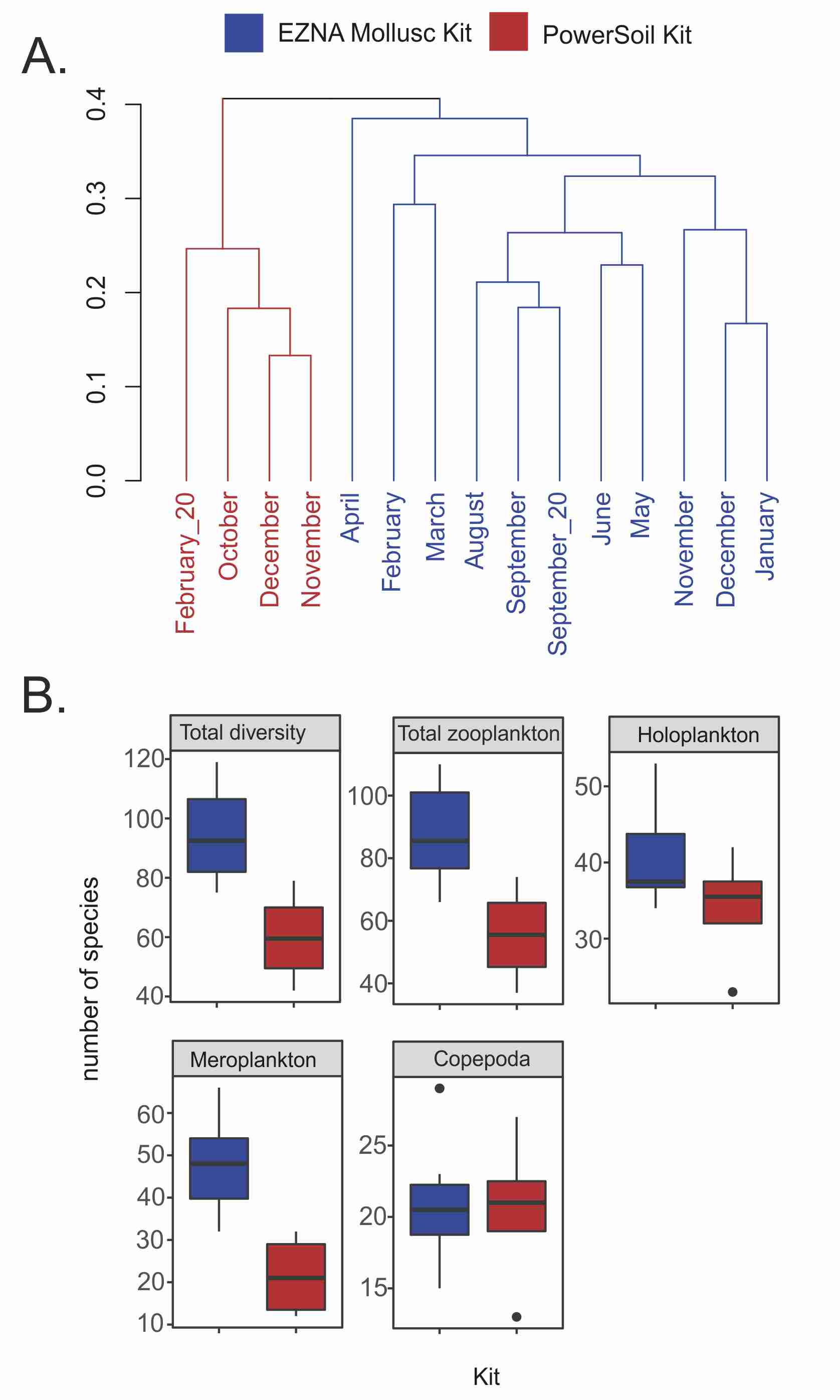
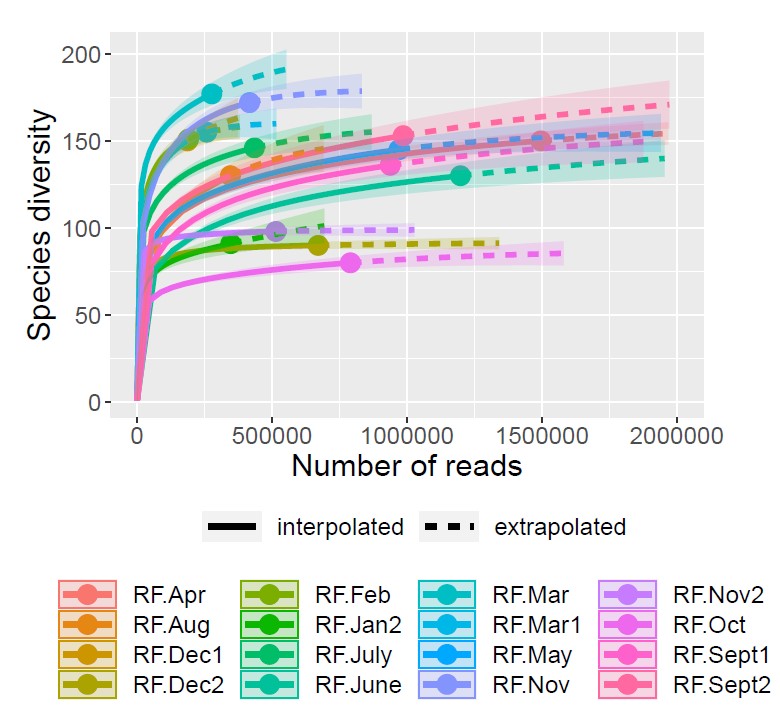
Supplementary Material

Supplementary Table 1: List of all taxa identified in Ramfjord using a metabarcoding approach, and the percentage of sequence reads obtain during each sampling event.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Phylum Subphylum | Class Order | Species | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Aug | Sep | Sep \_2 | Oct | Nov 2019 | Dec 2019 | Feb 2020 |
| Bryozoa | Gymnolaemata | *Membranipora  membranacea* | 0.000 | 0.002 | 0.006 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.019 | 0.002 | 0.015 | 0.110 | 0.000 |
| Chaetognatha | Sagittoidea | *Eukhronia  hamata* | 5.218 | 1.091 | 0.006 | 0.007 | 0.246 | 0.001 | 0.003 | 0.001 | 0.135 | 0.000 | 0.383 | 0.000 | 0.000 | 0.000 | 0.000 |
| Chaetognatha | Sagittoidea | *Parasagitta  elegans* | 20.351 | 23.599 | 16.878 | 0.785 | 0.735 | 0.505 | 1.969 | 4.720 | 10.37 | 7.488 | 18.09 | 4.746 | 0.077 | 6.259 | 0.014 |
| Chlorophyta | Mamiellales | *Bathycoccus  prasinos* | 0.000 | 0.002 | 0.000 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | 0.016 | 0.016 | 0.007 | 0.819 | 0.633 | 0.260 |
| Chordata | Ascidiacea | *Ascidiacea  indet* | 0.048 | 0.003 | 0.003 | 0.005 | 0.000 | 0.001 | 0.002 | 0.000 | 0.022 | 0.019 | 0.204 | 0.000 | 0.000 | 0.000 | 0.000 |
| Chordata | Ascidiacea | *Ascidiella  aspersa* | 0.000 | 0.003 | 0.000 | 0.152 | 0.000 | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Anthozoa | *Actiniaria* indet. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.313 | 0.024 |
| Cnidaria | Anthozoa | *Urticina  felina* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.169 | 0.006 |
| Cnidaria | Hydrozoa | *Clytia  hemisphaerica* | 0.000 | 0.100 | 0.068 | 0.064 | 0.000 | 0.012 | 0.022 | 0.008 | 0.031 | 1.934 | 4.668 | 6.833 | 0.251 | 4.152 | 0.005 |
| Cnidaria | Hydrozoa | *Corymorpha*  sp. | 0.000 | 0.006 | 0.010 | 0.007 | 0.000 | 0.001 | 0.003 | 0.001 | 0.003 | 0.310 | 0.235 | 0.078 | 0.085 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Euphysa aurata* | 0.002 | 0.545 | 0.009 | 0.014 | 0.002 | 0.004 | 0.023 | 0.002 | 0.007 | 0.229 | 0.759 | 0.068 | 0.000 | 0.000 | 0.487 |
| Cnidaria | Hydrozoa | *Lizzia  blondina* | 0.000 | 0.002 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.025 | 0.115 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Melicertum  octocostatum* | 0.000 | 0.004 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Mitrocomella  polydiademata* | 0.000 | 0.004 | 0.006 | 0.003 | 0.000 | 0.000 | 0.012 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Nanomia  cara* | 3.692 | 0.546 | 4.517 | 0.132 | 1.808 | 0.648 | 4.981 | 0.027 | 1.584 | 0.021 | 0.051 | 24.64 | 8.197 | 6.157 | 0.301 |
| Cnidaria | Hydrozoa | *Obelia  geniculata* | 0.000 | 0.002 | 0.002 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 | 0.035 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Obelia  longissima* | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.011 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Plotocnide  borealis* | 0.002 | 0.003 | 0.004 | 0.003 | 0.000 | 0.000 | 0.002 | 0.146 | 0.041 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Cnidaria | Hydrozoa | *Rathkea  octopunctata* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.124 | 0.164 | 0.000 |
| Cnidaria | Scyphozoa | *Aurelia  aurita* | 1.474 | 0.069 | 1.073 | 0.011 | 0.004 | 0.004 | 0.638 | 0.001 | 0.005 | 0.101 | 0.142 | 0.001 | 0.011 | 0.000 | 0.000 |
| Cnidaria | Scyphozoa | *Cyanea* sp. RUYNKAR | 0.023 | 0.000 | 0.000 | 0.000 | 0.268 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Amphipoda | *Themisto  abyssorum* | 0.000 | 0.004 | 0.007 | 0.007 | 0.000 | 0.001 | 0.001 | 0.001 | 3.194 | 0.090 | 0.033 | 0.000 | 0.026 | 0.000 | 0.000 |
| Crustacea | Cirripedia | *Akentrogonida* indet. | 0.000 | 0.011 | 0.176 | 0.202 | 0.000 | 0.006 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Cirripedia | *Balanus* sp. | 0.005 | 0.074 | 0.083 | 0.068 | 0.205 | 22.23 | 0.132 | 0.005 | 0.131 | 0.019 | 0.023 | 0.004 | 0.003 | 0.003 | 0.007 |
| Crustacea | Cirripedia | *Balanus  balanus* | 0.000 | 0.153 | 0.196 | 0.167 | 1.365 | 30.83 | 4.346 | 0.009 | 0.799 | 0.047 | 1.628 | 0.000 | 0.007 | 0.007 | 0.000 |
| Crustacea | Cirripedia | *Semibalanus  balanoides* | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.130 | 0.011 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Cirripedia | *Verruca  stroemia* | 0.000 | 0.006 | 0.003 | 0.005 | 0.000 | 0.003 | 0.001 | 0.009 | 0.001 | 0.011 | 0.010 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Cladocera | *Evadne  nordmanni* | 0.000 | 0.008 | 0.008 | 0.005 | 0.000 | 0.002 | 0.002 | 0.001 | 0.119 | 0.118 | 0.115 | 0.027 | 0.000 | 0.001 | 0.001 |
| Crustacea | Cladocera | *Podon  leuckartii* | 0.000 | 0.007 | 0.006 | 0.006 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.085 | 0.015 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Acartia  longiremis* | 2.952 | 1.946 | 7.315 | 3.021 | 4.479 | 0.485 | 2.487 | 5.394 | 14.89 | 33.52 | 8.340 | 4.276 | 5.822 | 8.987 | 2.844 |
| Crustacea | Copepoda | *Calanus  finmarchicus* | 2.054 | 0.675 | 0.349 | 16.482 | 5.525 | 0.716 | 1.383 | 3.215 | 2.944 | 3.127 | 2.300 | 2.059 | 0.374 | 0.657 | 3.514 |
| Crustacea | Copepoda | *Calanus  glacialis* | 1.181 | 0.428 | 0.637 | 2.707 | 0.745 | 0.807 | 3.906 | 6.907 | 3.414 | 2.990 | 2.738 | 1.165 | 0.181 | 0.014 | 1.997 |
| Crustacea | Copepoda | *Calanus  helgolandicus* | 0.167 | 0.425 | 0.072 | 0.000 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 0.008 | 0.102 | 0.049 | 0.097 | 0.220 |
| Crustacea | Copepoda | *Calanus  hyperboreus* | 1.633 | 0.663 | 0.220 | 0.075 | 0.167 | 0.684 | 4.466 | #### | 11.66 | 0.014 | 0.273 | 0.103 | 0.009 | 0.045 | 0.892 |
| Crustacea | Copepoda | *Candacia  armata* | 0.150 | 0.055 | 0.140 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.216 | 0.073 | 0.213 | 0.001 |
| Crustacea | Copepoda | *Centropages  hamatus* | 0.000 | 0.009 | 0.017 | 0.005 | 0.000 | 0.001 | 0.002 | 0.000 | 0.003 | 0.080 | 0.208 | 0.176 | 0.052 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Centropages  typicus* | 0.030 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.231 | 0.069 | 0.009 | 0.001 |
| Crustacea | Copepoda | *Cyclopoida* indet. | 0.465 | 0.182 | 0.065 | 0.230 | 0.312 | 0.002 | 0.000 | 0.001 | 0.000 | 0.002 | 0.015 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Diaixis  hibernica* | 0.008 | 0.000 | 0.017 | 0.342 | 0.033 | 0.000 | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Harpacticoida  indet* | 0.240 | 0.176 | 0.657 | 1.216 | 0.298 | 0.002 | 0.588 | 0.001 | 0.002 | 0.020 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Longipedia  coronata* | 0.014 | 0.004 | 0.265 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.000 | 0.007 | 0.016 | 0.013 | 0.003 | 0.004 | 0.000 |
| Crustacea | Copepoda | *Metridia  longa* | 0.285 | 0.627 | 0.198 | 0.136 | 0.098 | 0.012 | 0.508 | 0.140 | 0.126 | 0.156 | 0.040 | 0.077 | 0.016 | 0.017 | 0.161 |
| Crustacea | Copepoda | *Metridia lucens* | 0.186 | 0.825 | 0.058 | 0.067 | 0.004 | 0.013 | 0.098 | 0.125 | 0.224 | 0.110 | 0.702 | 0.652 | 0.476 | 0.640 | 0.428 |
| Crustacea | Copepoda | *Microcalanus  pusillus* | 5.653 | 8.236 | 12.789 | 17.044 | 10.762 | 1.383 | 3.756 | #### | 8.149 | 16.60 | 4.428 | 4.918 | 1.605 | 1.098 | 20.759 |
| Crustacea | Copepoda | *Microsetella  norvegica* | 0.156 | 0.013 | 0.180 | 0.024 | 0.189 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Oithona  similis* | 9.355 | 4.604 | 4.624 | 1.455 | 4.590 | 0.296 | 0.324 | 0.882 | 3.292 | 8.030 | 7.393 | 5.779 | 16.575 | 9.183 | 11.982 |
| Crustacea | Copepoda | *Triconia  borealis* | 0.187 | 0.106 | 0.250 | 0.051 | 0.062 | 0.001 | 0.074 | 0.058 | 0.025 | 0.019 | 0.005 | 0.007 | 0.007 | 0.001 | 0.007 |
| Crustacea | Copepoda | *Paracalanus  parvus* | 1.352 | 2.418 | 3.986 | 0.211 | 0.054 | 0.004 | 0.007 | 0.004 | 0.287 | 0.033 | 1.994 | 2.533 | 3.431 | 2.800 | 0.049 |
| Crustacea | Copepoda | *Paraeuchaeta  norvegica* | 0.031 | 0.002 | 0.026 | 0.013 | 0.004 | 0.004 | 0.022 | 0.110 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Copepoda | *Pseudocalanus  acuspes* | 7.133 | 4.460 | 7.409 | 30.569 | 15.107 | 5.341 | ##### | #### | 21.526 | 20.173 | 16.905 | 9.715 | 16.088 | 11.851 | 20.553 |
| Crustacea | Copepoda | *Pseudocalanus  elongatus* | 3.614 | 3.036 | 3.250 | 0.770 | 1.076 | 0.069 | 0.026 | 0.035 | 0.016 | 0.012 | 1.535 | 2.975 | 5.703 | 7.512 | 6.344 |
| Crustacea | Copepoda | *Pseudocalanus  mimus* | 0.000 | 0.080 | 0.158 | 0.032 | 0.000 | 0.012 | 0.265 | 0.026 | 0.042 | 0.040 | 0.074 | 0.039 | 0.059 | 0.020 | 0.063 |
| Crustacea | Copepoda | *Pseudocalanus  minutus* | 1.588 | 0.434 | 1.237 | 1.099 | 0.467 | 0.032 | 0.107 | 0.109 | 0.042 | 0.182 | 0.082 | 20.108 | 15.357 | 12.085 | 19.566 |
| Crustacea | Copepoda | *Pseudocalanus moultoni* | 3.599 | 3.972 | 4.743 | 2.666 | 1.655 | 0.284 | 1.174 | 1.117 | 0.756 | 1.263 | 3.197 | 5.563 | 12.784 | 8.570 | 4.639 |
| Crustacea | Copepoda | *Temora  longicornis* | 1.490 | 0.305 | 1.588 | 0.036 | 0.469 | 0.009 | 0.039 | 0.027 | 0.196 | 0.516 | 7.797 | 1.164 | 0.056 | 0.162 | 0.016 |
| Crustacea | Decapoda |  | 0.013 | 0.000 | 0.000 | 0.000 | 0.237 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Eualus  pusiolus* | 0.000 | 0.003 | 0.002 | 0.004 | 0.000 | 0.034 | 0.001 | 0.000 | 0.416 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Hyas  coarctatus* | 0.000 | 0.002 | 0.002 | 0.003 | 0.000 | 0.001 | 0.360 | 0.001 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Munida  sarsi* | 0.000 | 0.008 | 0.006 | 0.010 | 0.000 | 0.002 | 0.002 | 0.001 | 4.320 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Pagurus  pubescens* | 0.000 | 0.008 | 0.006 | 0.007 | 0.000 | 0.163 | 0.725 | 0.050 | 0.002 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Pandalus  borealis* | 1.866 | 0.000 | 0.000 | 0.000 | 16.496 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Pandalus*  sp. | 0.019 | 0.000 | 0.000 | 0.000 | 0.327 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Decapoda | *Sabinea  septemcarinata* | 0.000 | 0.001 | 0.002 | 0.001 | 0.000 | 0.189 | 0.000 | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Euphausiacea | *Thysanoessa  inermis* | 1.363 | 25.862 | 0.520 | 0.026 | 0.108 | 1.702 | 0.131 | 0.333 | 0.008 | 0.014 | 0.011 | 0.003 | 0.003 | 0.064 | 0.004 |
| Crustacea | Euphausiacea | *Thysanoessa  raschii* | 6.479 | 0.012 | 2.266 | 0.012 | 0.014 | 0.278 | 0.024 | 0.028 | 0.005 | 0.041 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Euphausiacea | *Meganyctiphanes  norvegica* | 0.004 | 0.095 | 0.053 | 0.122 | 0.062 | 0.069 | 0.038 | 0.007 | 0.024 | 0.005 | 7.829 | 0.000 | 0.000 | 0.000 | 0.000 |
| Crustacea | Isopoda |  | 0.016 | 0.150 | 0.310 | 0.000 | 0.007 | 0.014 | 0.014 | 0.000 | 0.000 | 0.000 | 0.055 | 0.050 | 0.025 | 0.014 | 0.072 |
| Ctenophora | Ctenophora | *Ctenophora* indet. | 0.814 | 4.058 | 0.306 | 0.023 | 0.706 | 0.209 | 0.402 | #### | 0.054 | 0.083 | 0.025 | 0.002 | 0.029 | 0.134 | 0.040 |
| Curstacea | Copepoda | *Longipedia* sp. | 0.026 | 0.004 | 0.029 | 0.004 | 0.000 | 0.001 | 0.001 | 0.001 | 0.003 | 0.005 | 0.118 | 0.046 | 0.003 | 0.000 | 0.000 |
| Echinoderm | Echinoidea | *Strongylocentrotus  droebachiensis* | 0.000 | 0.045 | 0.062 | 0.037 | 0.119 | 4.572 | 0.042 | 0.193 | 0.025 | 0.011 | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinoderm | Echinoidea | *Strongylocentrotus  pallidus* | 0.000 | 0.000 | 0.000 | 0.000 | 1.344 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Asteroidea | *Asterias  rubens* | 0.000 | 0.021 | 0.023 | 0.024 | 0.000 | 0.006 | 0.005 | 0.225 | 0.587 | 1.074 | 0.203 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Asteroidea | *Ctenodiscus  australis* | 0.118 | 0.010 | 0.114 | 0.251 | 1.566 | 0.043 | 0.001 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.016 |
| Echinodermata | Asteroidea | *Solaster  endeca* | 0.000 | 0.003 | 0.006 | 0.005 | 0.000 | 0.673 | 0.001 | 0.000 | 0.002 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Echinoidea | *Echinocardium  cordatum* | 0.000 | 0.004 | 0.003 | 0.004 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.042 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Echinoidea | *Echinus  esculentus* | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Holothuroidea | *Cucumaria  frondosa* | 0.000 | 0.038 | 0.056 | 0.039 | 0.000 | 9.397 | 0.008 | 0.003 | 0.029 | 0.014 | 0.013 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Holothuroidea | *Labidoplax buskii* | 0.446 | 0.381 | 0.755 | 0.030 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.077 | 0.000 |
| Echinodermata | Holothuroidea | *Thyonidium  drummondii* | 0.000 | 0.009 | 0.008 | 0.005 | 0.000 | 0.559 | 0.001 | 0.001 | 0.006 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Ophiuroidea | *Ophiocten  affinis* | 0.000 | 0.001 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.009 | 0.000 | 0.000 | 0.008 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Ophiuroidea | *Ophiopholis  aculeata* | 0.003 | 0.035 | 0.028 | 0.035 | 0.047 | 0.021 | 0.021 | 0.803 | 0.014 | 0.013 | 0.005 | 0.001 | 0.006 | 0.002 | 0.001 |
| Echinodermata | Ophiuroidea | *Ophiura  albida* | 0.000 | 0.003 | 0.002 | 0.001 | 0.000 | 0.001 | 0.001 | 0.007 | 0.000 | 0.014 | 0.021 | 0.000 | 0.000 | 0.000 | 0.000 |
| Echinodermata | Ophiuroidea | *Ophiura  robusta* | 0.006 | 0.002 | 0.003 | 0.002 | 0.045 | 0.001 | 0.002 | 0.148 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Haptophyta | Prymnesiophyceae | *Phaeocystis* spp. | 0.000 | 0.096 | 0.085 | 0.078 | 0.000 | 3.238 | ##### | 0.036 | 0.045 | 0.016 | 0.021 | 0.019 | 0.312 | 0.253 | 0.045 |
| Mollusc | Polyplacophora | *Tonicella  marmorea* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.037 | 0.234 | 0.000 |
| Mollusca | Bivalvia | *Hiatella* sp. | 0.010 | 0.008 | 0.004 | 0.015 | 0.150 | 0.002 | 0.001 | 0.004 | 0.001 | 0.002 | 0.001 | 0.004 | 0.009 | 0.010 | 0.004 |
| Mollusca | Gastropoda | *Aporrhais  pespelecani* | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.005 | 0.000 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mollusca | Gastropoda | *Eubranchus  exiguus* | 0.102 | 0.009 | 0.027 | 0.122 | 0.041 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mollusca | Gastropoda | *Lacuna  vincta* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 | 0.001 | 0.001 | 0.000 | 0.024 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mollusca | Gastropoda | *Limapontia  capitata* | 0.004 | 0.000 | 0.000 | 0.000 | 0.408 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mollusca | Gastropoda | *Microchlamylla  gracilis* | 0.001 | 0.012 | 0.002 | 0.000 | 0.012 | 0.001 | 0.000 | 0.000 | 0.120 | 0.020 | 0.010 | 0.003 | 0.030 | 0.193 | 0.019 |
| Mollusca | Gastropoda | *Oenopota* sp. | 0.000 | 0.000 | 0.002 | 0.000 | 0.811 | 0.129 | 0.001 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| mollusca | Gastropoda | *Placida  dendritica* | 0.006 | 0.015 | 0.000 | 0.000 | 0.028 | 0.003 | 0.018 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.043 | 0.174 | 0.154 |
| Mollusca | Gastropoda | *Velutina  velutina* | 0.000 | 0.000 | 0.000 | 0.000 | 0.216 | 0.011 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mollusca | Gastropoda |  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.058 | 0.219 | 0.024 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nematoda |  |  | 0.003 | 0.225 | 0.002 | 0.001 | 0.001 | 0.008 | 0.072 | 0.095 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nemertea |  | *Malacobdella  grossa* | 0.001 | 0.008 | 0.012 | 0.634 | 0.379 | 1.577 | 0.014 | 0.015 | 0.005 | 0.002 | 0.125 | 0.000 | 0.000 | 0.000 | 0.000 |
| Nemertea |  | *Micrura  varicolor* | 0.002 | 0.000 | 0.000 | 0.034 | 0.536 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ochrphyta | Dinophyceae indet. | *Chaetoceros* spp. | 0.000 | 0.012 | 0.011 | 0.008 | 0.000 | 0.002 | 0.021 | 0.004 | 0.010 | 0.026 | 0.452 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ochrphyta |  |  | 0.005 | 0.101 | 0.056 | 0.104 | 0.022 | 0.057 | 0.579 | 0.134 | 0.033 | 0.011 | 0.059 | 0.031 | 0.106 | 0.066 | 0.023 |
| Pices | Pleuronectiformes | *Hippoglossoides  platessoides* | 0.000 | 0.004 | 0.007 | 0.004 | 0.000 | 0.203 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Pices | Gadiformes | *Melanogrammus  aeglefinus* | 0.010 | 0.000 | 0.000 | 0.000 | 0.130 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Pices | Pleuronectiforme | *Microstomus  kitt* | 0.000 | 0.003 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Plathyhelminthes |  |  | 0.016 | 0.000 | 0.000 | 0.000 | 0.283 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Amphinomida | *Paramphinome  jeffreysii* | 0.002 | 0.000 | 0.000 | 0.025 | 0.267 | 0.004 | 0.006 | 0.011 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Capitellida | *Capitella  capitata* | 0.233 | 0.189 | 0.356 | 0.069 | 0.048 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Capitellida | *Capitellida* | 0.585 | 0.000 | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Eunicida indet. | *Eunicida* indet. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.023 | 0.009 | 0.216 | 0.000 |
| Polychaeta | Eunicida | *Dorvilleidae* indet. | 0.093 | 0.000 | 0.112 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Eunicida | *Nothria  conchylega* CMC02 | 0.003 | 0.012 | 0.081 | 0.009 | 0.025 | 0.002 | 0.004 | 0.071 | 0.551 | 0.261 | 0.141 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Maldanidae | *Euclymene  zonalis* | 0.000 | 0.097 | 0.195 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Orbiniidae | *Scoloplos  armiger* | 0.008 | 0.009 | 0.022 | 0.012 | 0.116 | 0.145 | 0.009 | 0.000 | 0.004 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Phyllodocida* | 0.000 | 0.075 | 0.271 | 0.001 | 0.000 | 0.018 | 0.020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Aglaophamus  malmgreni* | 0.134 | 0.126 | 0.406 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.047 | 0.111 | 0.052 | 0.001 |
| Polychaeta | Phyllodocida | *Antinoella  finmarchica* | 0.113 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Bylgides  sarsi* | 0.000 | 0.000 | 0.000 | 0.000 | 0.359 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Gyptis  mackiei* | 0.002 | 0.000 | 0.000 | 1.036 | 0.041 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Harmothoe  sarsi* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.111 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Harmothoe* sp. CMC01 | 0.000 | 0.003 | 0.023 | 0.002 | 0.107 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.061 | 0.005 | 0.152 | 0.019 | 0.000 |
| Polychaeta | Phyllodocida | *Lepidonotus  squamatus* | 0.000 | 0.002 | 0.002 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Nereimyra  punctata* | 0.000 | 0.001 | 0.000 | 0.002 | 0.118 | 0.001 | 0.045 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Pholoe  baltica* | 0.000 | 0.003 | 0.003 | 0.004 | 0.000 | 0.001 | 0.002 | 0.149 | 0.006 | 0.001 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Phyllodoce  grenlandica* | 0.022 | 0.000 | 0.003 | 0.866 | 2.949 | 0.031 | 0.380 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Phyllodoce*  sp. | 0.056 | 0.000 | 0.000 | 0.785 | 0.530 | 0.005 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Phyllodocida | *Tomopteris  sp.* | 0.634 | 0.003 | 0.198 | 0.004 | 0.002 | 0.132 | 0.633 | 0.000 | 0.001 | 0.001 | 0.001 | 0.054 | 0.070 | 0.000 | 0.649 |
| Polychaeta | Sabellida | *Hydroides  elegans* | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.114 | 0.000 | 0.000 |
| Polychaeta | Sabellida | *Sabellida* | 0.020 | 0.415 | 0.663 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Scalibregmatidae | *Scalibregma  inflatum* | 0.002 | 0.000 | 0.000 | 0.000 | 0.161 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Spionida | *Spionida* | 0.000 | 0.002 | 0.003 | 0.007 | 0.000 | 0.184 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Spionida | *Spionidae  indet* | 0.007 | 2.823 | 5.858 | 0.108 | 6.580 | 11.066 | 0.349 | 0.160 | 0.085 | 0.041 | 0.040 | 0.057 | 2.347 | 8.664 | 0.048 |
| Polychaeta | Spionida | *Laonice  cirrata* | 0.003 | 0.000 | 0.496 | 0.001 | 0.005 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.089 | 0.178 | 0.002 | 0.000 | 0.001 |
| Polychaeta | Spionida | *Scolelepis*  sp. | 0.001 | 0.002 | 0.005 | 0.002 | 0.407 | 0.202 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Spionida | *Spio* sp. | 0.000 | 0.000 | 0.000 | 0.000 | 0.528 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Spionida | *Spiophanes  kroyeri* | 0.004 | 0.161 | 0.019 | 0.000 | 0.037 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 | 0.000 |
| Polychaeta | Spionida | *Spiophanes* sp. | 0.116 | 0.159 | 0.319 | 0.000 | 0.016 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Ampharete  finmarchica* | 0.002 | 0.000 | 0.129 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Amphitrite  cirrata* | 0.004 | 0.000 | 0.000 | 0.122 | 3.264 | 0.061 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Chaetozone  setosa* | 0.016 | 0.002 | 0.009 | 1.075 | 0.035 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.004 | 0.000 | 0.000 | 0.000 | 0.028 |
| Polychaeta | Terebellida | *Flabelligera  affinis* | 0.045 | 0.000 | 0.000 | 0.000 | 0.374 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Lanassa  venusta* | 0.000 | 0.000 | 0.000 | 0.110 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Neoamphitrite  grayi* | 0.001 | 0.000 | 0.002 | 1.314 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Pectinaria  koreni* | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.008 | 0.606 | 0.002 | 0.019 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Pista  maculata* | 0.000 | 0.000 | 0.000 | 0.365 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Polycirrus  medusa* | 0.001 | 0.066 | 0.000 | 1.426 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Polycirrus* sp. | 0.083 | 0.000 | 0.000 | 0.179 | 0.270 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaeta | Terebellida | *Terebellida* | 0.079 | 0.442 | 0.029 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.022 | 0.004 |
| Polychaete | Maldanidae | *Maldane  sarsi* | 0.000 | 0.000 | 0.502 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.102 | 0.014 | 0.000 |
| Polychaete | Phyllodocida | *Eunoe  oerstedi* | 0.000 | 0.000 | 0.000 | 0.000 | 0.144 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaete | Terebellida | *Melinna  elisabethae* | 0.000 | 0.124 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaete | Terebellida | *Terebellidae* indet. | 0.002 | 0.187 | 0.000 | 0.215 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Polychaete | Terebellida | *Thelepus  cincinnatus* | 0.166 | 0.048 | 0.454 | 1.100 | 0.248 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.003 | 0.017 | 0.000 |
| Pyrrophycophyta |  |  | 0.000 | 0.659 | 1.938 | 1.284 | 0.000 | 0.004 | 0.065 | 0.025 | 0.149 | 0.016 | 0.411 | 0.000 | 0.000 | 0.000 | 0.000 |
| Pyrrophycophyta | Bacillariophyceae | *Dinophyceae* indet. | 0.000 | 1.330 | 2.948 | 3.365 | 0.000 | 0.022 | 0.052 | 0.285 | 0.327 | 0.181 | 2.253 | 0.492 | 3.183 | 3.506 | 2.256 |
| Rotifera | Ploima |  | 0.000 | 0.007 | 0.013 | 0.007 | 0.033 | 0.001 | 0.019 | 0.729 | 0.006 | 0.001 | 0.001 | 0.003 | 0.010 | 0.017 | 0.005 |

Supplementary Figure 1: Cluster dendrogram (based on chi-square distances) based on abundance of zooplankton derived from morphological analysis. Distinct assemblages are frame in different colours: light blue for winter cluster, orange for the autumn/ winter cluster, dark blue for the spring/summer cluster and the green frame for the spring bloom.

supplementary Figure 2: Effect of the extraction kit on the diversity. (A) Results of cluster analysis (fourth root transformed relative read counts, Bray-Curtis similarity). Blue - EZNA Mollusc extraction Kit; red - PowerSoil DNA extraction kit. (B) The average number of taxa detected using the EZNA Mollusc DNA extraction kit (blue) vs. the PowerSoil DNA extraction kit (red), for all organisms, zooplankton, holoplankton, meroplankton and the Copepoda.



Supplementary Figure 3: Rarefaction plot showing effective species richness (Hill number of order 0) obtained using R package iNEXT. Saturation plateaus are achieved for most of the sampling events with the used sequencing depth. So, species richness estimations can be directly compared.

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