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.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| PhylumSubphylum | ClassOrder | Species | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Aug | Sep | Sep\_2 | Oct | Nov2019 | Dec2019 | Feb2020 |
| 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 | *Euphysaaurata* | 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 | *Metridialucens* | 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 | *Pseudocalanusmoultoni* | 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 | *Labidoplaxbuskii* | 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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