**Supplementary Table S3**. Generalized linear model (GLZ) showing the effects of seasonal period, year of collection, fish species (*Abramis brama*, AB; *Rutilus rutilus*, RR) and body size which were included in the analyses. Parameter estimates (B) and S.E. for categories are shown.

|  |  |  |  |
| --- | --- | --- | --- |
| **Dependent variable** | **Parameter** | **B** | **S.E.** |
| Metazoan parasite abundance | species=AB  | 1.163 | 0.168 |
|  | species=RR  | 1.045 | 0.150 |
|  | species=RRAB | - | - |
|  | season=autumn | -0.859 | 0.136 |
|  | season=spring | - | - |
|  | Year=2011 | 0.538 | 0.154 |
|  | Year=2012 | 0.350 | 0.146 |
|  | Year=2013 | - | - |
|  | Standard length (mm) | 0.065 | 0.019 |
| Monogenean abundance | species=AB  | 2.233 | 0.181 |
|  | species=RR  | 1.828 | 0.151 |
|  | species=RRAB | - | - |
|  | season=autumn | -1.066 | 0.144 |
|  | season=spring | - | - |
|  | Year=2011 | 0.515 | 0.158 |
|  | Year=2012 | 0.335 | 0.149 |
|  | Year=2013 | - | - |
|  | Standard length | 0.006 | 0.021 |
| Crustacean abundance | species=AB  | -0.925 | 0.185 |
|  | species=RR  | -2.101 | 0.198 |
|  | species=RRAB | - | - |
|  | season=autumn | -0.403 | 0.163 |
|  | season=spring | - | - |
|  | Year=2011 | -0.124 | 0.187 |
|  | Year=2012 | 0.544 | 0.173 |
|  | Year=2013 | - | - |
|  | Standard length(mm) | 0.174 | 0.022 |
| Digenean abundance | species=AB  | -1.531 | 0.191 |
|  | species=RR  | -1.401 | 0.186 |
|  | species=RRAB | - | - |
|  | season=autumn | -0.443 | 0.165 |
|  | season=spring | - | - |
|  | Year=2011 | -0.087 | 0.184 |
|  | Year=2012 | -0.493 | 0.184 |
|  | Year=2013 | - | - |
|  | Standard length (mm) | 0.102 | 0.022 |
| Cestodean abundance | species=AB  | 0.682 | 0.400 |
|  | species=RR  | 1.353 | 0.402 |
|  | species=RRAB | - | - |
|  | season=autumn | -2.373 | 0.468 |
|  | season=spring | - | - |
|  | Year=2011 | 1.095 | 0.365 |
|  | Year=2012 | 1.593 | 0.340 |
|  | Year=2013 | - | - |
|   | Standard length (mm) | 0.153 | 0.048 |