

Supplementary material

Drivers of zooplankton dynamics in a small tropical lowland river

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Table S1. Locations of the sampling sites

Site	Latitude (°S)	Longitude (°E)
1	17.0958	145.8498
2	17.1625	145.8976
3	17.1799	145.9109
4	17.1818	145.9153
5	17.2119	145.9262
6	17.2141	145.9191
7	17.2172	145.9476
8	17.2259	145.9491

Table S2. Mean density (number of individuals m⁻³) of zooplankton taxa collected in the 80- μ m mesh net from run habitat at each site over 13 months

	Site							
	1	2	3	4	5	6	7	8
Gastropoda	-	5.8	9.5	4.2	103	93.6	109	35.8
Bivalvia	-	-	0.2	-	0.5	41.1	124	60.5
Oligochaeta	0.2	-	0.2	4.3	1.6	0.3	0.2	-
Polychaeta	-	-	-	0.2	0.4	69.9	4.9	0.7
Hydracarina	0.9	0.4	0.6	-	0.7	0.2	0.4	1.7
Cladocera	1.0	0.8	-	-	0.4	0.2	16.5	49.1
Ostracoda	0.6	1.4	0.4	0.6	1.4	3.0	0.6	0.9
Harpacticoida	-	-	0.2	0.4	10.7	162	265	301
Cyclopoida	-	2.6	2.4	11.2	243	865	3205	2171
Calanoida	73.2	888	956	1472	2901	2563	3312	1570
Copepoda nauplii	27.4	753	745	1204	1982	2274	2858	1530
Cirripedia	-	-	-	-	-	0.4	0.8	0.8
Brachyura	2.2	1.3	8.0	15.6	31.9	40.6	34.9	43.5
Other Decapoda	85.5	39.8	19.0	32.7	22.9	25.0	26.7	22.8
Appendicularia	-	-	-	-	-	-	3.2	4.8
Hydromedusae	-	-	-	-	-	-	0.1	0.2
Siphonophora	-	-	-	-	-	-	0.4	0.2
Ctenophore	-	-	-	-	-	-	0.2	0.6
Mysidacea	-	-	-	0.2	4.4	2.0	18.5	35.1
Other Malacostraca	-	-	-	0.5	0.7	0.8	2.8	0.7
Amphipoda	1.2	0.9	14.5	28.2	67.0	131	85.5	23.2
Isopoda	-	0.2	-	0.3	5.9	5.1	25.4	6.6
Ephemeroptera	1.0	2.4	2.3	1.6	0.3	0.2	0.4	0.2
Corixidae	-	-	0.3	0.1	-	-	-	-
Elmidae	-	-	0.2	-	-	-	-	-
Other Coleoptera	-	0.8	0.7	1.2	0.2	-	0.5	0.2
Chironomidae	15.1	7.2	5.5	5.6	0.5	0.6	-	-
Ceratopogonidae	0.4	-	-	-	-	-	-	-
Trichoptera	0.2	0.6	0.6	0.2	0.2	-	-	-
Terrestrial invertebrates	-	-	-	0.2	-	-	0.2	0.2
Thaliacea	-	-	-	-	-	-	0.4	-
Cephalochordata	-	-	-	-	-	-	-	0.2
Chaetognatha	-	-	-	-	17.3	15.5	20.8	23.0
Sergestidae	-	-	-	-	2.1	1.7	5.1	4.1
Conchostraca	-	-	-	-	0.2	3.0	-	0.7

Table S3. Results of two-factor PERMANOVA of taxonomic richness, total density and density of selected taxa across 13 months and 8 sites

Residual d.f. = 104, total d.f. = 207

	Month	Site	Month × Site
	d.f. = 12	d.f. = 7	d.f. = 84
Richness			
Pseudo- <i>F</i>	11.494	65.740	1.472
<i>P</i>	0.001	0.001	0.032
Total density			
Pseudo- <i>F</i>	79.685	139.570	6.111
<i>P</i>	0.001	0.001	0.001
Copepoda nauplii			
Pseudo- <i>F</i>	24.127	47.381	2.599
<i>P</i>	0.001	0.001	0.001
Harpacticoida			
Pseudo- <i>F</i>	18.882	137.530	4.119
<i>P</i>	0.001	0.001	0.001
Cyclopoida			
Pseudo- <i>F</i>	13.362	134.650	3.796
<i>P</i>	0.001	0.001	0.001
Calanoida			
Pseudo- <i>F</i>	51.741	70.450	5.959
<i>P</i>	0.001	0.001	0.001
Decapoda			
Pseudo- <i>F</i>	16.707	3.169	2.578
<i>P</i>	0.001	0.006	0.001
Brachyura			
Pseudo- <i>F</i>	32.588	25.021	5.469
<i>P</i>	0.001	0.001	0.001
Amphipoda			
Pseudo- <i>F</i>	7.795	20.991	2.156
<i>P</i>	0.001	0.001	0.001

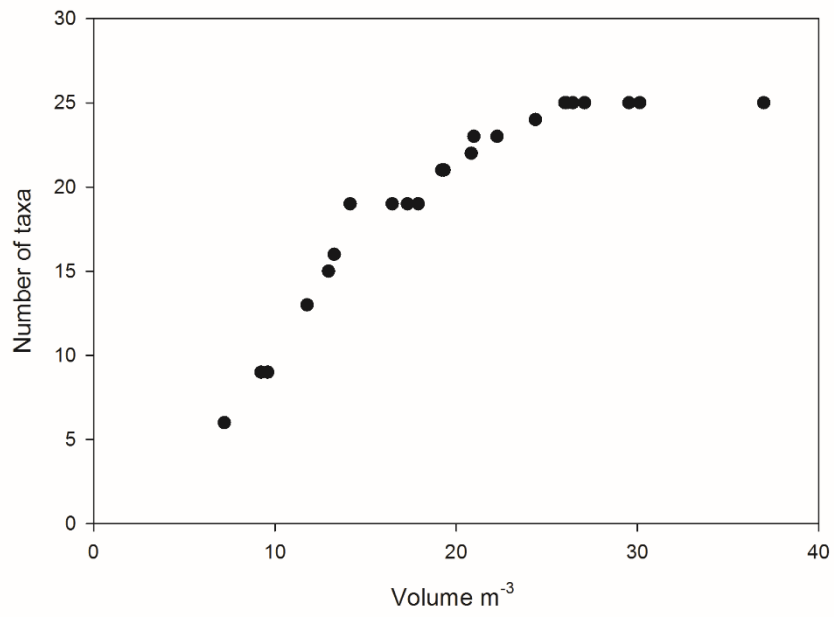


Fig. S1. Taxon accumulation curve from zooplankton samples collected using the coarse mesh (250 μm) net during pilot study investigations in the lower Mulgrave River, August 2005. Volume (m^3) is volume of water filtered.

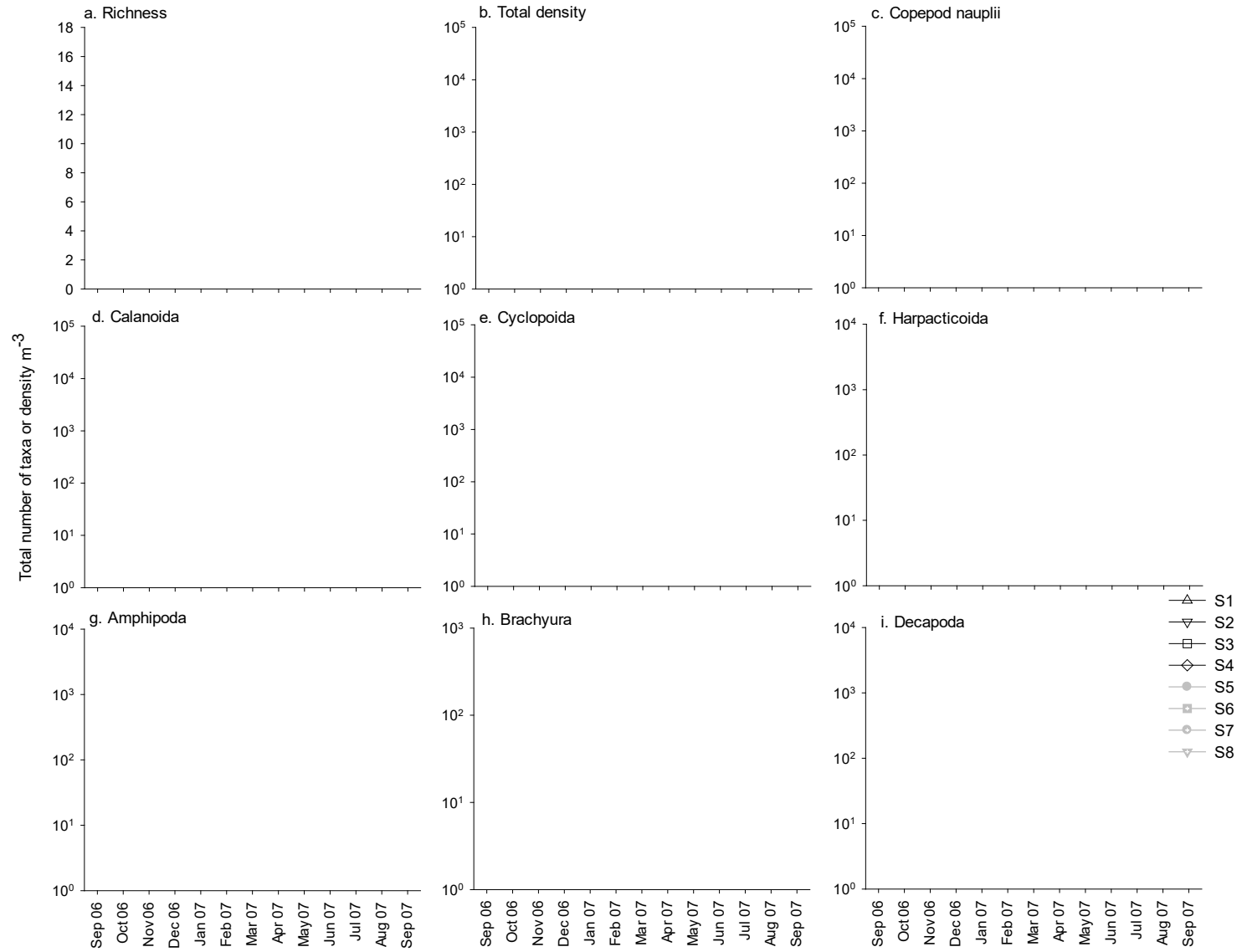


Fig. S2. Mean monthly taxonomic richness, total density of individuals and density of selected taxa at each site (S1–S8) between September 2006 and September 2007.

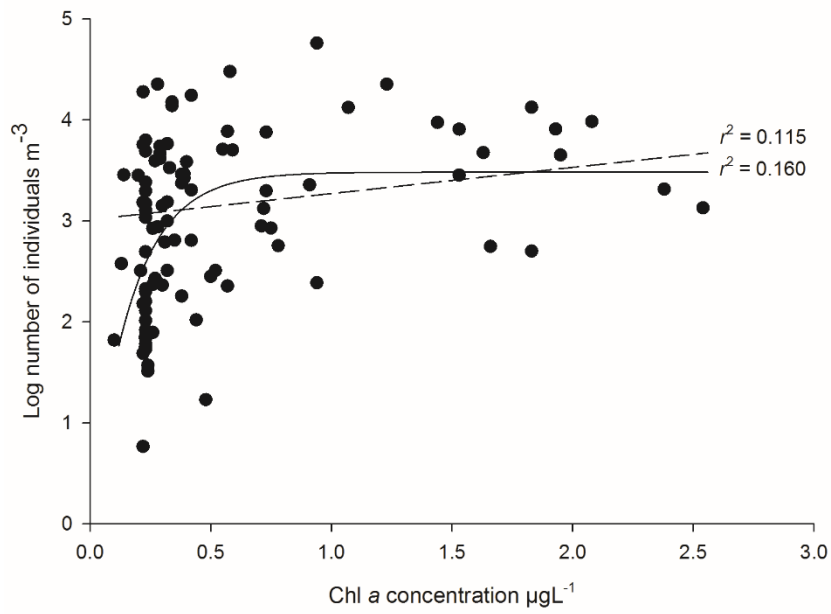


Fig. S3. Relationship between chlorophyll a concentration and density of zooplankton collected in run habitat with the 80-µm mesh net, September 2006 to September 2007. Regression lines and r^2 values represent exponential rise to maximum (solid line, $P < 0.001$) and linear (dashed line, $P = 0.025$) relationships.