

Supplementary Material

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Supplementary Table S1. Relative abundance, functional group (FG), and morphologically based functional group (MBFG) of algal species inside and outside of *Pectinatella magnifica*

Species	Environmental regimes ^a		FG	MBFG
	Within <i>P. magnifica</i>	In waterbodies		
Bacillariophyceae				
<i>Acanthoceras zachariasii</i>	-	73.4 ± 73.0 (1.8)	A	VI
<i>Asterionella formosa</i>	-	29.5 ± 29.5 (0.7)	C	VI
<i>Aulacoseira ambigua</i>	-	136.4 ± 45.7 (3.2)	C	VI
<i>Aulacoseira granulata</i>	303.8 ± 254.0 (3.1)	514.4 ± 227.1 (10.3)	P	VI
<i>Aulacoseira muzzanensis</i>	-	15.9 ± 13.9 (0.4)	P	VI
<i>Aulacoseria distans</i>	-	206.1 ± 116.0 (4.6)	C	VI
<i>Aulacoseria granulata</i> var. <i>antiguissima</i>	-	19.6 ± 6.1 (0.5)	P	VI
<i>Cyclotella</i> sp.	20.9 ± 20.9 (2.5)	2950.9 ± 2950.9 (34.0)	B	VI
<i>Cymbella aspera</i>	74.8 ± 74.8 (2.8)	-	MP	VI
<i>Fragilaria capucina</i>	-	29.3 ± 10.3 (0.7)	P	VI
<i>Fragilaria crotonensis</i>	-	20.2 ± 6.7 (0.5)	P	VI
<i>Gomphonema gracile</i>	12.6 ± 6.6 (2.4)	-	MP	VI
<i>Gyrosigma acuminatum</i>	25.4 ± 25.4 (2.6)	-	MP	VI
<i>Gyrosigma</i> sp.	-	1.3 ± 1.3 (0.0)	MP	VI
<i>Melosira varians</i>	-	77.9 ± 41.4 (1.9)	P	VI
<i>Navicula</i> sp.	4.8 ± 2.7 (2.2)	-	MP	VI
<i>Navicula symmetrica</i>	36.4 ± 30.5 (2.6)	-	MP	VI
<i>Nitzschia capitellata</i>	40.5 ± 35.4 (2.7)	0.4 ± 0.4 (0.0)	MP	VI
<i>Nitzschia fonticola</i>	-	0.2 ± 0.2 (0.0)	MP	VI
<i>Nitzschia fruticosa</i>	-	0.5 ± 0.5 (0.0)	MP	VI
<i>Nitzschia gracilis</i>	7.2 ± 4.9 (2.3)	7.6 ± 3.7 (0.2)	MP	VI
<i>Nitzschia obtusa</i>	-	8.8 ± 6.0 (0.2)	MP	VI
<i>Nitzschia palea</i>	357.6 ± 204.3 (3.1)	39.3 ± 13.9 (1.0)	MP	VI
<i>Nitzschia</i> sp.	140.7 ± 140.7 (2.9)	12.8 ± 8.7 (0.3)	MP	VI
<i>Synedra acus</i>	-	39.6 ± 10.6 (1.0)	D	VI
Chlorophyceae				
<i>Actinastrum aciculare</i>	-	0.5 ± 0.5 (0.0)	J	IV
<i>Actinastrum hantzschii</i>	-	179.9 ± 89.3 (4.1)	J	IV
<i>Actinastrum hantzschii</i> var. <i>fluviatile</i>	-	13.5 ± 13.5 (0.3)	J	IV
<i>Ankistrodesmus falcatus</i>	-	1.0 ± 0.7 (0.0)	X1	IV
<i>Ankyra lanceolata</i>	-	0.0 ± 0.0 (0.0)	X1	IV
<i>Basichlamys sacculifera</i>	-	9.2 ± 6.3 (0.2)	J	V
<i>Chlamydomonsa</i> sp.	-	0.2 ± 0.2 (0.0)	X2	V
<i>Chodatella citrifomis</i>	-	1.3 ± 0.9 (0.0)	J	IV
<i>Chodatella wratislawiensis</i>	-	0.1 ± 0.1 (0.0)	J	IV
<i>Closteriopsis longissima</i> var. <i>tropica</i>	-	3.7 ± 3.7 (0.1)	P	IV
<i>Closterium aciculare</i> var. <i>subpronum</i>	-	107.8 ± 47.7 (2.5)	P	IV
<i>Coelastrum cambricum</i>	188.8 ± 135.9 (3.0)	5.3 ± 5.3 (0.1)	J	IV
<i>Coelastrum microporum</i>	144.7 ± 144.7 (2.9)	24.2 ± 16.4 (0.6)	J	IV
<i>Cosmarium botrytis</i>	40.3 ± 40.3 (2.7)	-	N	IV
<i>Crucigenia crucifera</i>	-	0.6 ± 0.3 (0.0)	J	VII
<i>Crucigenia neglecta</i>	-	4.4 ± 3.2 (0.1)	J	VII
<i>Desmodesmus abundans</i>	-	0.8 ± 0.7 (0.0)	J	IV
<i>Desmodesmus abundans</i>	-	1.5 ± 1.1 (0.0)	J	IV
<i>Desmodesmus bicaudatus</i>	-	4.0 ± 2.0 (0.1)	J	IV
<i>Desmodesmus denticulatus</i>	-	2.4 ± 1.8 (0.1)	J	IV
<i>Desmodesmus intermedius</i>	3.2 ± 3.2 (2.2)	1.1 ± 0.7 (0.0)	J	IV
<i>Desmodesmus opoliensis</i>	-	3.8 ± 2.9 (0.1)	J	IV

Supplementary Table S1. Continued

Species	Environmental regimes ^a		FG	MBFG
	Within <i>P. magnifica</i>	In waterbodies		
Chlorophyceae				
<i>Desmodesmus perforatus</i>	-	17.5 ± 15.9 (0.4)	J	IV
<i>Eudorina elegans</i>	435.0 ± 294.5 (3.2)	-	G	VII
<i>Golenkinia radiata</i>	-	2.0 ± 1.2 (0.0)	J	IV
<i>Kirchneriella danubiana</i>	-	0.4 ± 0.4 (0.0)	X1	VII
<i>Kirchneriella</i> sp.	-	0.3 ± 0.2 (0.0)	X1	VII
<i>Micractinium pusillum</i>	31.5 ± 31.5 (2.6)	-	X1	IV
<i>Monoraphidium arcuatum</i>	18.7 ± 6.3 (2.5)	2.7 ± 0.7 (0.1)	X1	IV
<i>Monoraphidium contortum</i>	-	0.2 ± 0.1 (0.0)	X1	IV
<i>Monoraphidium griffithii</i>	2.1 ± 1.4 (2.1)	4.8 ± 1.7 (0.1)	X1	IV
<i>Monoraphidium irregulare</i>	-	0.1 ± 0.1 (0.0)	X1	IV
<i>Oocystis lacustris</i>	-	55.6 ± 27.6 (1.3)	X1	VII
<i>Pandorina morum</i>	111.4 ± 75.4 (2.9)	-	G	VII
<i>Pandorina unicocca</i>	-	7.9 ± 7.9 (0.2)	G	VII
<i>Pectinodesmus javanensis</i>	-	0.6 ± 0.6 (0.0)	J	IV
<i>Pediastrum boryanum</i>	-	12.8 ± 12.8 (0.3)	J	IV
<i>Pediastrum duplex</i>	-	37.7 ± 21.6 (0.9)	J	IV
<i>Pediastrum simplex</i>	291.7 ± 291.7 (3.1)	23.0 ± 13.5 (0.6)	J	IV
<i>Pediastrum simplex</i> var. <i>biwensis</i>	-	75.9 ± 67.4 (1.8)	J	IV
<i>Pediastrum simplex</i> var. <i>duodenarium</i>	-	4.2 ± 4.2 (0.1)	J	IV
<i>Planktosphaeria gelatinosa</i>	-	319.6 ± 147.0 (6.9)	X1	VII
<i>Scenedesmus aracuatus</i>	-	2.2 ± 2.2 (0.1)	J	IV
<i>Scenedesmus ecornis</i>	-	9.5 ± 5.1 (0.2)	J	IV
<i>Scenedesmus ovalternus</i>	-	0.6 ± 0.6 (0.0)	J	IV
<i>Scenedesmus quadricauda</i>	271 ± 138.7 (3.1)	101.9 ± 59.6 (2.4)	J	IV
<i>Scenedesmus</i> sp.	4.8 ± 4.8 (2.2)	-	J	IV
<i>Schroederia indica</i>	-	0.2 ± 0.2 (0.0)	X1	IV
<i>Schroederia setigera</i>	-	7.5 ± 2.7 (0.2)	X1	IV
<i>Selenastrum minutum</i>	-	0.6 ± 0.4 (0.0)	J	IV
<i>Tetradismus bernardii</i>	-	2.9 ± 2.1 (0.1)	J	IV
<i>Tetradismus lagerheimii</i>	42 ± 42 (2.7)	19.0 ± 10.1 (0.5)	J	IV
<i>Tetradismus obliquus</i>	365.2 ± 365.2 (3.1)	23.0 ± 10.2 (0.6)	J	IV
<i>Tetrastrum komarekii</i>	-	10.9 ± 5.1 (0.3)	J	IV
<i>Treubaria schmidlei</i>	-	3.5 ± 2.4 (0.1)	X1	IV
<i>Treubaria setigera</i>	-	0.7 ± 0.5 (0.0)	X1	IV
Crysophyceae				
<i>Synura uvella</i>	165.4 ± 165.4 (3.0)	3.4 ± 1.2 (0.1)	W _s	II
Cyanophyceae				
<i>Anabaena</i> sp.	66.0 ± 66.0 (2.8)	13.3 ± 7.1 (0.3)	H1	III
<i>Anabaena torulosa</i>	-	5.5 ± 5.5 (0.1)	H1	III
<i>Aphanizomenon flos-aquae</i>	-	0.3 ± 0.3 (0.0)	H1	III
<i>Aphanocapsa delicatissima</i>	0.1 ± 0.1 (1.5)	-	K	VII
<i>Aphanocapsa holsatica</i>	1.6 ± 1.4 (2.0)	-	K	VII
<i>Aphanocapsa</i> sp.	-	0.2 ± 0.1 (0.0)	K	VII
<i>Chroococcus</i> sp.	-	0.0 ± 0.0 (0.0)	L _o	VII
<i>Microcystis aeruginosa</i>	58.5 ± 33.3 (2.7)	96.2 ± 59.5 (2.3)	M	VII
<i>Microcystis wesenbergii</i>	-	29.5 ± 22.0 (0.7)	M	VII
<i>Phormidium tenue</i>	39.1 ± 24.0 (2.7)	1.1 ± 0.9 (0.0)	S1	I
<i>Planktothrix kawamurae</i>	76303.3 ± 41334.0 (4.2)	308.9 ± 308.9 (6.7)	S1	III
<i>Planktothrix limosa</i>	-	42.3 ± 42.3 (1.0)	S1	I
<i>Planktothrix princeps</i>	-	31.7 ± 29.1 (0.8)	S1	I
<i>Planktothrix</i> sp.	40.6 ± 33.5 (2.7)	1.6 ± 1.4 (0.0)	S1	I
<i>Planktothrix tenuis</i>	-	21.0 ± 18.9 (0.5)	S1	I
<i>Pseudanabaena catenata</i>	1498.4 ± 365.1 (3.4)	15.9 ± 7.4 (0.4)	S1	IV
<i>Pseudanabaena mucicola</i>	11.4 ± 6.1 (2.4)	0.5 ± 0.3 (0.0)	S1	IV
<i>Pseudanabaena</i> sp.	48.7 ± 40.8 (2.7)	-	S1	IV
Eulgenophyceae				
<i>Euglena</i> sp.	13.0 ± 13.0 (2.4)	1.0 ± 1.0 (0)	W1	V

^aNumbers indicate values of biomass ($\mu\text{g L}^{-1}$) and numbers in parentheses indicate relative abundance (%).

-, not observed.

Supplementary Table S2. Results of similarity percentage analyses illustrating functional groups that differentiate between inside and outside of *Pectinatella magnifica*

Responsible group	Average similarity	Ratio similarity / Standard deviation	Species contribution (%)	Cumulative contribution (%)
C	8.23	2.68	14.99	14.99
P	8.21	2.37	14.95	29.94
D	5.15	1.43	9.37	39.31
MP	4.98	1.19	9.07	48.38
M	4.54	1.17	8.26	56.64
J	4.24	0.93	7.71	64.35
X1	4.12	1.26	7.50	71.85
S1	3.71	1.54	6.75	78.60
H1	3.00	0.81	5.46	84.06
W _s	2.98	0.93	5.44	89.50
G	2.56	0.60	4.65	94.15
B	1.40	0.41	2.55	96.70
A	1.22	0.42	2.21	98.91
N	0.60	0.29	1.09	100.0

Supplementary Table S3. Results of similarity percentage analyses illustrating morphologically based functional groups that differentiate between inside and outside of *Pectinatella magnifica*

Responsible group	Average similarity	Ratio similarity / Standard deviation	Species contribution (%)	Cumulative contribution (%)
VI	7.45	0.92	19.34	19.34
III	7.36	1.05	19.11	38.45
VII	6.85	1.20	17.78	56.23
I	6.39	1.11	16.60	72.83
II	4.53	0.94	11.77	84.60
V	3.28	0.70	8.52	93.12
IV	2.65	0.83	6.88	100.0