

Clumpy coexistence in phytoplankton: The role of functional similarity in

community assembly.

Appendix 1 Clumpy coexistence in phytoplankton: The role of functional similarity in community assembly.

Table S1. Morphology based functional group (MBFG), individual volume (V), surface volume ratio (SV), maximum linear dimension (MLD), presence of flagella (F), siliceous exoskeleton (Si), aerotopes (A), and the code used to describe each species observed during the study.

Taxa	MBFG	V (μm^3)	SV	MLD (μm)	F	Si	M	A	code
Cyanobacteria									
Chroococcales sp.	I	4.2	3.0	2.0	0	0	0	0	spp. 20
Chroococcales sp. 2	VII	169.7	2.0	15.0	0	0	1	0	spp. 21
Chroococcales sp. 3	VII	171.6	1.9	13.0	0	0	1	0	spp. 22
Chroococcales sp. 4	VII	83.8	3.0	15.0	0	0	1	0	spp. 23
<i>Chroococcus</i> sp.	I	22.5	1.7	3.5	0	0	0	0	spp. 18
<i>cf. Cyanobium</i> sp.	I	8.4	2.6	4.0	0	0	0	0	spp. 19
<i>Geitlerinema</i> sp.	IV	79.2	3.4	70.0	0	0	0	0	spp. 1
<i>Geitlerinema</i> sp. 2	IV	212.1	2.7	120.0	0	0	0	0	spp. 2
<i>Geitlerinema</i> sp. 3	IV	57.7	3.1	43.5	0	0	0	0	spp. 3
<i>Jaaginema</i> sp.	IV	84.3	3.7	88.7	0	0	0	0	spp. 5
<i>Komvophoron</i> sp.	IV	31.8	2.8	19.0	0	0	0	0	spp. 4
<i>Limnothrix</i> sp.	III	1570.8	1.0	125.0	0	0	0	1	spp. 6
<i>Limnothrix</i> sp. 2	III	1256.6	1.0	100.0	0	0	0	1	spp. 7
<i>Limnothrix</i> sp. 3	III	2428.9	0.9	140.0	0	0	0	1	spp. 8
<i>Merismopedia</i> sp.	VII	343.0	0.9	20.0	0	0	1	0	spp. 24
<i>Oscillatoria</i> sp.	IV	1361.9	1.2	150.0	0	0	0	0	spp. 9
<i>Oscillatoria</i> sp. 2	IV	301.7	1.5	49.0	0	0	0	0	spp. 10
Oscillatoriales sp.	IV	282.7	1.4	40.0	0	0	0	0	spp. 33
Oscillatoriales sp. 2	IV	141.4	1.4	20.0	0	0	0	0	spp. 34
Oscillatoriales sp. 4	IV	184.5	1.4	26.1	0	0	0	0	spp. 35
Oscillatoriales sp. 6	IV	85.0	1.7	16.0	0	0	0	0	spp. 36
<i>Pseudanabaena catenata</i>	IV	785.4	2.0	250.0	0	0	0	0	spp. 12
<i>Pseudanabaena limnetica</i>	IV	113.1	2.7	64.0	0	0	0	0	spp. 11
<i>Pseudanabaena</i> sp.	IV	2828.6	1.2	294.0	0	0	0	0	spp. 25

<i>Pseudanabaena</i> sp. 2	IV	981.8	1.6	200.0	0	0	0	0	spp. 26
<i>Pseudanabaena</i> sp. 3	IV	568.6	2.0	181.0	0	0	0	0	spp. 27
<i>Pseudanabaena</i> sp. 4	IV	1011.2	1.6	206.0	0	0	0	0	spp. 28
<i>Pseudanabaena</i> sp. 5	IV	213.6	2.0	68.0	0	0	0	0	spp. 29
<i>Pseudanabaenaceae</i> sp.	IV	176.7	2.7	100.0	0	0	0	0	spp. 30
<i>Pseudanabaenaceae</i> sp. 2	IV	106.2	3.1	80.0	0	0	0	0	spp. 31
<i>cf. Raphidiopsis</i>	IV	254.5	2.2	100.0	0	0	0	0	spp. 32
<i>Pseudanabaenaceae</i> sp. 7	IV	21.2	4.1	27.0	0	0	0	0	spp. 13
<i>Romeria</i> sp.	IV	125.7	2.1	40.0	0	0	0	0	spp. 14
<i>cf. Spirulina</i>	IV	31.2	3.5	30.0	0	0	0	0	spp. 15
<i>Synechococcus</i> sp.	I	4.2	3.0	4.0	0	0	0	0	spp. 17
<i>Synechocystis aquatilis</i>	IV	32.3	1.5	4.0	0	0	0	0	spp. 16
Bacillariophyceae									
<i>Achnanthes cf. rupestoides</i>	VI	569.4	0.9	29.0	0	1	0	0	spp. 46
<i>Achnanthes inflata</i>	VI	8812.2	0.3	68.0	0	1	0	0	spp. 45
<i>Achnanthes</i> sp.	VI	160.2	1.3	17.0	0	1	0	0	spp. 47
<i>Achnanthes</i> sp. 2	VI	99.0	1.8	21.0	0	1	0	0	spp. 48
<i>cf. Achnantheidium</i> sp.	VI	48.7	3.1	31.0	0	1	0	0	spp. 49
<i>Amphora</i> sp.	VI	340.9	1.1	30.0	0	1	0	0	spp. 50
<i>Aulacoseira granulata</i>	VI	1263.6	0.7	49.0	0	1	0	0	spp. 37
<i>Aulacoseira</i> sp.	VI	5657.2	0.6	147.0	0	1	0	0	spp. 38
<i>Aulacoseira</i> sp.2	VI	4834.9	0.5	76.0	0	1	0	0	spp. 39
Centrales sp.	VI	5195.4	0.6	135.0	0	1	0	0	spp. 44
<i>Cyclotella cf. meneghiniana</i>	VI	716.8	0.6	15.0	0	1	0	0	spp. 40
<i>Cyclotella</i> sp.	VI	410.5	0.8	12.0	0	1	0	0	spp. 41
<i>Cyclotella</i> sp. 2	VI	190.1	1.0	8.0	0	1	0	0	spp. 42
<i>Cymbela</i> sp.	VI	9433.0	0.3	64.0	0	1	0	0	spp. 51
<i>cf. Encyonema</i> sp.	VI	226.2	1.2	18.0	0	1	0	0	spp. 52
<i>Fragillaria capucina</i>	VI	648.0	0.9	33.0	0	1	0	0	spp. 53
<i>Fragillaria capucina</i> var. <i>fragilarioides</i>	VI	989.6	0.7	36.0	0	1	0	0	spp. 55
<i>Fragillaria capucina</i> var. <i>gracilis</i>	VI	730.4	0.8	31.0	0	1	0	0	spp. 54
<i>Fragillaria</i> sp.	VI	487.0	1.0	31.0	0	1	0	0	spp. 56
<i>cf. Frustulia</i> sp.	VI	1526.8	0.5	27.0	0	1	0	0	spp. 57
<i>Gomphonema augur</i>	VI	78.6	1.6	27.0	0	1	0	0	spp. 58
<i>Gomphonema cf. olivaceum</i>	VI	150.1	1.2	31.0	0	1	0	0	spp. 59

<i>Gomphonema cf. truncatum</i>	VI	139.9	1.3	33.0	0	1	0	0	spp. 60
<i>Gomphonema</i> sp.	VI	758.7	0.7	23.0	0	1	0	0	spp. 61
<i>Gomphonema</i> sp. 2	VI	212.1	1.2	18.0	0	1	0	0	spp. 62
<i>Gyrosigma/Pleurosigma</i>	VI	8278.1	0.3	61.9	0	1	0	0	spp. 63
<i>Hantzschia</i> sp.	VI	966.0	1.0	46.0	0	1	0	0	spp. 64
<i>Melosira</i> sp.	VI	17241.1	0.2	28.0	0	1	0	0	spp. 43
<i>Navicula</i> sp.	VI	2660.9	0.5	44.0	0	1	0	0	spp. 65
<i>Navicula</i> sp. 2	VI	546.6	0.9	28.6	0	1	0	0	spp. 66
<i>Navicula</i> sp. 3	VI	1286.5	0.6	25.9	0	1	0	0	spp. 67
<i>Navicula</i> sp. 4	VI	1060.3	0.6	25.0	0	1	0	0	spp. 68
<i>Naviculales</i>	VI	2937.4	0.4	34.3	0	1	0	0	spp. 69
<i>Nitzschia</i> sp.	VI	395.8	1.2	41.7	0	1	0	0	spp. 70
<i>Nitzschia</i> sp. 2	VI	99.0	1.8	21.0	0	1	0	0	spp. 71
Pennales sp.	VI	2660.9	0.5	43.8	0	1	0	0	spp. 82
Pennales sp. 10	VI	754.0	0.7	19.6	0	1	0	0	spp. 90
Pennales sp. 11	VI	94.3	1.3	8.0	0	1	0	0	spp. 91
Pennales sp. 12	VI	1005.3	0.6	20.0	0	1	0	0	spp. 92
Pennales sp. 13	VI	824.7	0.8	29.7	0	1	0	0	spp. 93
Pennales sp. 2	VI	2544.7	0.5	40.0	0	1	0	0	spp. 83
Pennales sp. 3	VI	1237.0	0.6	24.7	0	1	0	0	spp. 84
Pennales sp. 4	VI	2353.8	0.5	37.0	0	1	0	0	spp. 85
Pennales sp. 5	VI	1357.2	0.6	27.0	0	1	0	0	spp. 86
Pennales sp. 6	VI	7861.8	0.3	55.0	0	1	0	0	spp. 87
Pennales sp. 7	VI	1696.5	0.5	30.0	0	1	0	0	spp. 88
Pennales sp. 8	VI	348.7	1.2	37.0	0	1	0	0	spp. 89
<i>Pinnularia</i> sp.	VI	13589.6	0.3	71.0	0	1	0	0	spp. 72
<i>Pinnularia</i> sp. 2	VI	6013.0	0.4	49.3	0	1	0	0	spp. 73
<i>Pinnularia</i> sp. 7	VI	18746.1	0.3	62.3	0	1	0	0	spp. 76
<i>Pinullaria</i> sp. 4	VI	10449.1	0.3	48.7	0	1	0	0	spp. 74
<i>Pinullaria</i> sp. 6	VI	16760.3	0.3	64.4	0	1	0	0	spp. 75
<i>Stauroneis borrichii</i>	VI	659.7	0.8	21.0	0	1	0	0	spp. 77
<i>Surirella cf. minuta</i>	VI	1520.5	0.5	16.0	0	1	0	0	spp. 78
<i>Surirella</i> sp.	VI	4002.4	0.4	26.0	0	1	0	0	spp. 79
<i>Synedra</i> sp.	VI	19045.7	0.4	160.9	0	1	0	0	spp. 80
<i>cf. Urosolenia</i> sp.	VI	13845.8	0.3	61.0	0	1	0	0	spp. 81
Chlorophyceae									

<i>Actinastrum cf. hantzchii</i>	IV	388.8	1.2	25.0	0	0	0	0	spp. 95
<i>Actinastrum</i> sp.	IV	115.2	1.9	16.0	0	0	0	0	spp. 94
<i>Ankistrodesmus</i> sp.	IV	578.6	2.0	37.5	0	0	0	0	spp. 96
<i>Chlorella</i> sp. 1	IV	65.5	1.2	5.0	0	0	0	0	spp. 97
<i>Chlorella</i> sp. 2	IV	46.8	1.3	4.5	0	0	0	0	spp. 98
<i>Chlorella</i> sp. 3	IV	87.1	1.1	5.5	0	0	0	0	spp. 99
Chlorococcales sp.	IV	69.5	1.2	5.1	0	0	0	0	spp. 127
Chlorococcales sp. 2	IV	212.2	0.8	7.4	0	0	0	0	spp. 128
Chlorococcales sp. 3	IV	33.5	1.5	4.0	0	0	0	0	spp. 129
Chlorococcales sp. 4	IV	47.4	1.3	4.5	0	0	0	0	spp. 130
Chlorococcales sp. 5	VII	235.6	1.1	51.2	0	0	1	0	spp. 131
Chlorococcales sp. 6	VII	2822.2	0.8	15.0	0	0	1	0	spp. 132
Chlorococcales sp. 7	VII	293.2	1.3	17.0	0	0	1	0	spp. 133
<i>Coelastrum</i> sp.	IV	8181.2	0.2	25.0	0	0	0	0	spp. 100
<i>Crucigenia fenestrata</i>	IV	217.8	1.0	6.1	0	0	0	0	spp. 101
<i>Crucigenia</i> sp. 2	IV	198.0	1.0	5.5	0	0	0	0	spp. 102
<i>Crucigeniella</i> sp.	IV	1139.0	0.6	13.6	0	0	0	0	spp. 103
<i>Desmodesmus quadricauda</i>	IV	188.5	1.6	9.6	0	0	0	0	spp. 104
<i>Desmodesmus</i> sp. 1	IV	301.6	1.3	8.6	0	0	0	0	spp. 105
<i>Desmodesmus</i> sp. 2	IV	469.1	1.2	14.4	0	0	0	0	spp. 106
<i>Desmodesmus</i> sp. 3	IV	113.1	1.7	5.9	0	0	0	0	spp. 107
<i>Desmodesmus</i> sp. 4	IV	94.3	1.8	5.0	0	0	0	0	spp. 108
<i>Desmodesmus</i> sp. 5	IV	418.9	1.1	8.0	0	0	0	0	spp. 109
<i>Dictyosphaerium</i> sp.	VII	112.3	1.7	3.5	0	0	1	0	spp. 110
<i>cf. Koliella</i> sp.	I	6.5	2.8	4.0	0	0	0	0	spp. 111
<i>Monoraphidium arcuatum</i>	I	14.8	3.4	17.5	0	0	0	0	spp. 112
<i>Monoraphidium contortum</i>	I	7.7	4.6	17.5	0	0	0	0	spp. 113
<i>Monoraphidium convolutum</i>	I	9.3	3.4	11.0	0	0	0	0	spp. 114
<i>Monoraphidium komarkovae</i>	IV	23.6	4.0	40.0	0	0	0	0	spp. 115
<i>Monoraphidium minutum</i>	I	18.9	2.1	8.0	0	0	0	0	spp. 116
<i>Oocystis</i> sp.	IV	384.9	0.7	15.0	0	0	0	0	spp. 117
<i>Oocystis</i> sp. 2	IV	150.8	0.9	8.2	0	0	0	0	spp. 118
<i>Oocystis</i> sp. 3	IV	1140.4	0.5	18.3	0	0	0	0	spp. 119
<i>Pandorina</i> sp.	IV	1415.8	0.4	15.7	0	0	0	0	spp. 120
<i>Pediastrum</i> sp.	IV	5717.7	0.9	56.0	0	0	0	0	spp. 121

<i>Pediastrum</i> sp. 2	IV	3518.6	1.3	50.0	0	0	0	0	spp. 122
<i>Scenedesmus</i> sp.	IV	301.6	1.3	8.9	0	0	0	0	spp. 123
<i>Scenedesmus</i> sp. 2	IV	234.6	1.2	13.5	0	0	0	0	spp. 124
<i>Scenedesmus</i> sp. 3	IV	829.4	0.9	10.6	0	0	0	0	spp. 125
<i>Scenedesmus</i> sp. 4	IV	50.3	2.5	6.0	0	0	0	0	spp. 126
Cryptophyceae									
<i>cf. Cryptomonas</i> sp.	V	785.4	0.5	14.7	1	0	0	0	spp. 134
<i>cf. Cryptomonas</i> sp. 2	V	551.4	0.6	12.8	1	0	0	0	spp. 135
Cryptophyceae sp.	V	837.8	0.5	16.0	1	0	0	0	spp. 136
Cryptophyceae sp. 2	V	368.6	0.7	11.0	1	0	0	0	spp. 137
Cryptophyceae sp. 3	V	188.5	0.9	10.0	1	0	0	0	spp. 138
Cryptophyceae sp. 4	V	31.56	1.54	3.9	1	0	0	0	spp. 149
Cryptophyceae sp. 5	V	77.95	1.13	5.3	1	0	0	0	spp. 150
Zygnematophyceae									
<i>Cosmarium</i> sp.	IV	1256.6	0.6	12.0	0	0	0	0	spp. 139
<i>Staurastrum</i> sp.	IV	751.4	1.0	14.2	0	0	0	0	spp. 140
<i>Staurodesmus</i> sp.	IV	1118.4	0.8	35.0	0	0	0	0	spp. 141
Chrysophyceae									
<i>Dinobryon</i> sp.	IV	815.0	0.7	38.0	0	0	0	0	spp. 142
Euglenophyceae									
<i>Euglena</i> sp. 1	V	2508.1	0.3	30.5	1	0	0	0	spp. 143
<i>Euglena</i> sp. 2	V	3951.3	0.8	42.6	1	0	0	0	spp. 144
<i>Euglena</i> sp. 3	V	523.6	0.6	10.0	1	0	0	0	spp. 145
<i>Phacus</i> sp.	V	1436.8	0.4	14.0	1	0	0	0	spp. 146
<i>Strombomonas</i> sp.	V	31.1	1.5	3.9	1	0	0	0	spp. 147
<i>Trachelomonas</i> sp.	V	78.0	1.1	5.3	1	0	0	0	spp. 148