

Phytoplankton responses to temperature increases are constrained by abiotic conditions and community composition

Maren Striebel^{1,2}, Stefanie Schabhüttl³, Dorothee Hodapp¹, Peter Hingsamer⁴ and Helmut Hillebrand¹

¹Institute for Chemistry and Biology of the Marine Environment, University of Oldenburg, Schleusenstrasse 1, 26382 Wilhelmshaven, Germany

²Institute of Hydrobiology and Aquatic Ecosystem Management, University of Natural Resources and Life Sciences, Max Emanuel-Strasse 17, 1180 Vienna, Austria

³WasserCluster Lunz, Dr. Carl Kupelwieser Promenade 5, 3293 Lunz am See, Austria

⁴Department of Organismic Biology, University of Salzburg, Hellbrunnerstrasse 34, 5020 Salzburg, Austria

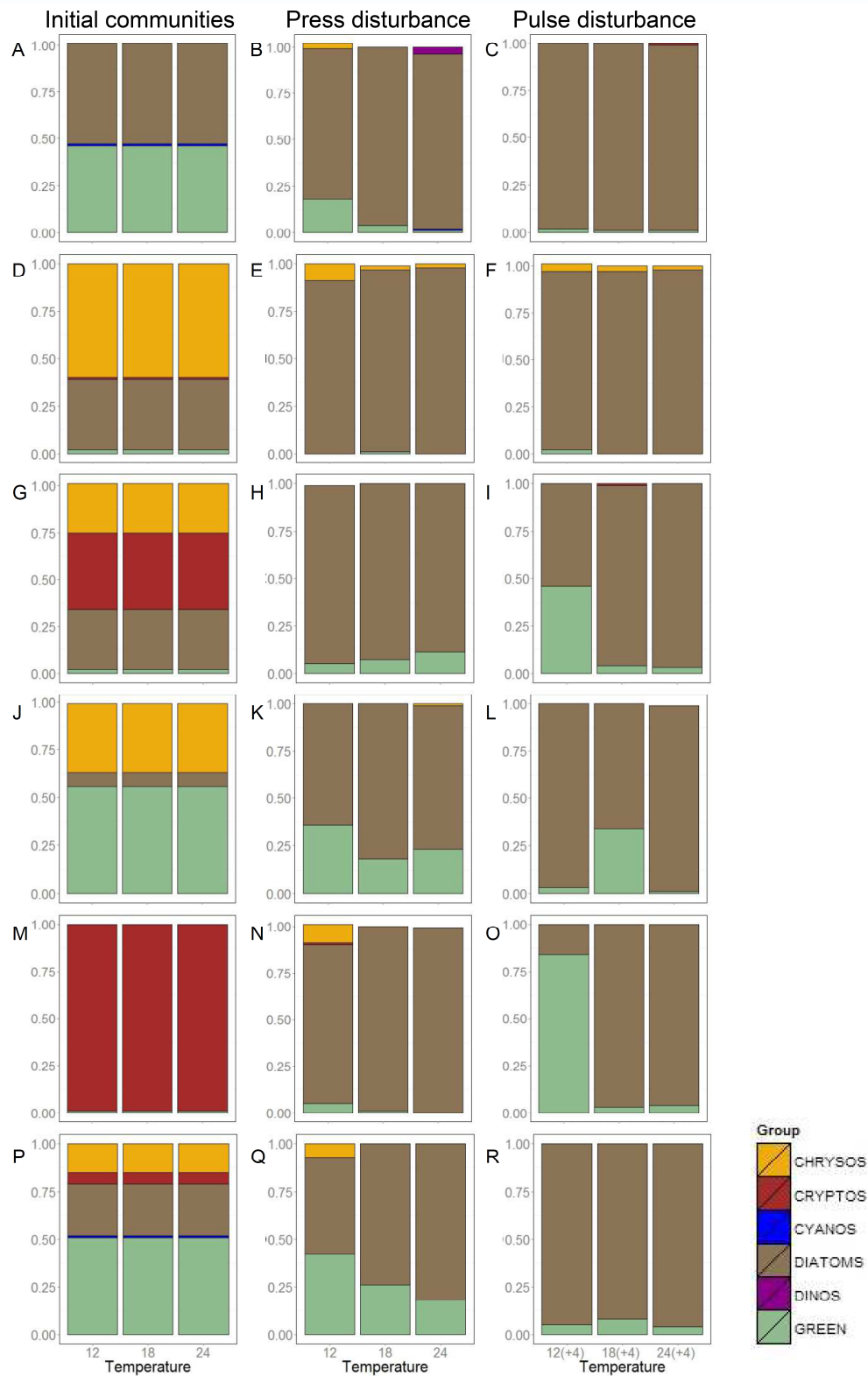
Author Contributions:

MS and SS conceived, designed and performed the experiments. MS, DH and PH analyzed the data. MS and HH wrote the manuscript; other authors provided editorial advice.

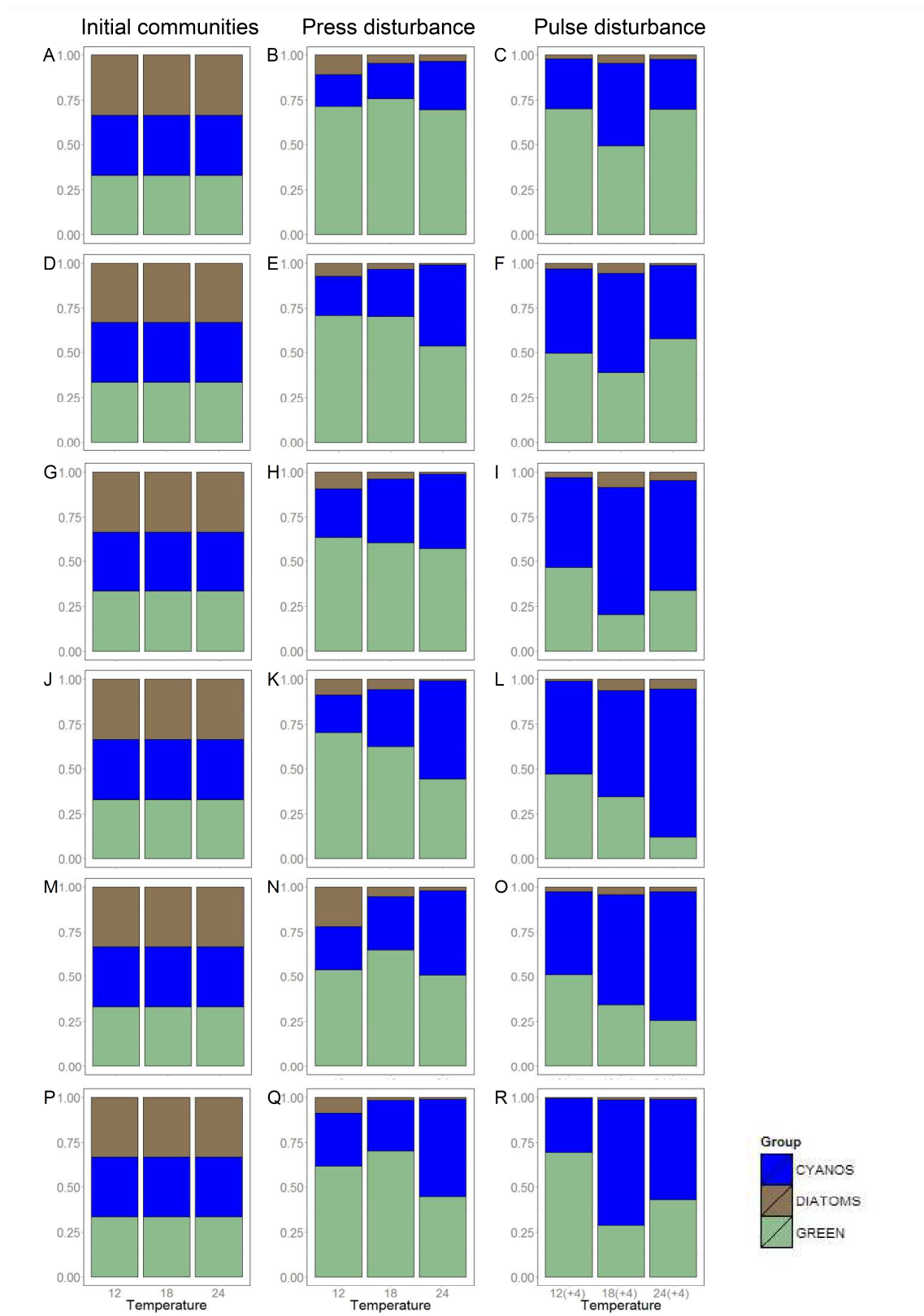
Electronic Supplemental Material Striebel et al.

Online Resource 1: Summary of phytoplankton species used for the artificially assembled communities

Genus	Species	Group	Origin/Strain number
Chlamydomonas	reinhardtii	<i>Chlorophyceae</i>	SAG 11-31
Mougeotia	scalaris	<i>Chlorophyceae</i>	SAG 164.80
Scenedesmus	obliquus	<i>Chlorophyceae</i>	SAG 276-10
Staurastrum	tetracerum	<i>Chlorophyceae</i>	SAG 7.94
Anabaena	cylindrica	<i>Cyanophyceae</i>	SAG 1403-2
Chroococcus	minutus	<i>Cyanophyceae</i>	SAG 41.79
Leptolyngbya	fragilis	<i>Cyanophyceae</i>	CCALA 87 HINDAK 1982/12
Oscillatoria	limnosa	<i>Cyanophyceae</i>	SAG 42.87
Fragilaria	crotonensis	<i>Bacillariophyceae</i>	SAG 28.96
Navicula	pelliculosa	<i>Bacillariophyceae</i>	SAG 1050-3
Nitzschia	palea	<i>Bacillariophyceae</i>	SAG 1052-3a
Skeletonema	subsalum	<i>Bacillariophyceae</i>	SAG 8.94



Online Resource 2: Community composition (relative biovolume) of natural communities based on functional groups (Chrysophytes, Cryptophytes, Cyanobacteria, Diatoms, Dinoflagellates, Green algae) for initial communities, communities after press disturbance and after peak disturbance. A-C Site1 (Danube River), D-F Site2 (Eberschütt Wasser). G-I Site3 (Hanselgrund), J-L Site4 (Kühwörter Traverse), M-O Site5 (Schwarzes Loch), P-R Site6 (Schönauer Traverse).



Online Resource 3: Community composition (relative biovolume) of artificial communities based on functional groups (Cyanobacteria, Diatoms, Green algae) for initial communities, communities after press disturbance and after peak disturbance. A-C Site1 (Danube River), D-F Site2 (Eberschütt Wasser). G-I Site3 (Hanselgrund), J-L Site4 (Kühwörter Traverse), M-O Site5 (Schwarzes Loch), P-R Site6 (Schönauer Traverse).