Supplementary Material

Thorsmoerkia curvula gen. et spec. nov. (Trebouxiophyceae, Chlorophyta), a semi-terrestrial microalga from Iceland exhibits high levels of unsaturated fatty acids

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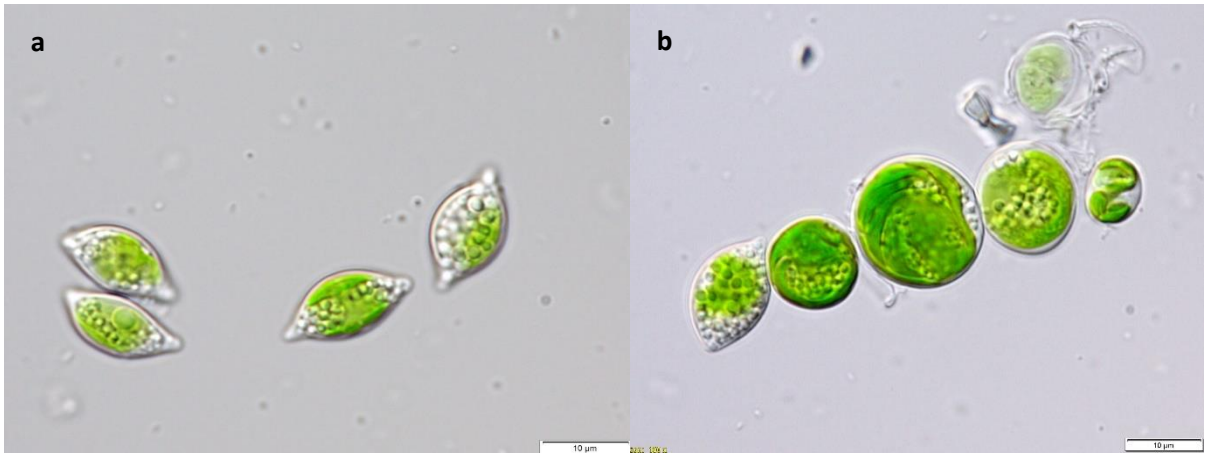
Supplemental Table 1 Composition of "enhanced Synthetic Freshwater Medium" (eSFM). Prepare the stock solutions first and then add the indicated volume of each stock solution 1 to 5 and 7 to 950 mL of deionized water (dH_2O). Then adjust the pH with 4M HCl to 7.0. Bring to a final volume of 1 liter and autoclave (121°C, 15 min). Stock solution 6 (vitamins) should have a pH of 7 and be stored in the fridge. Add it to the autoclaved medium through a sterile membrane filter. The Trace Metals stocks should be stored frozen in plastic bottles. The stress medium used in this study lacking nitrogen and phosphate ("-N -P SFM") was prepared by omitting stock 4 and 6 and substituting stock 2 of eSFM with $CaCl_2 \cdot 2\ H_2O$ (3.09 g / 100 mL dH_2O), adding 2 mL to prepare 1 liter of final medium

Stock	Component	Stock solution	added for 1 L medium
1.	HEPES puffer	238.10 g / L dH_2O	1 mL
2.	$Ca(NO_3)_2 \cdot 4\ H_2O$	100.00 g / L dH_2O	1 mL
3.	$MgSO_4 \cdot 7\ H_2O$	20.00 g / L dH_2O	2.5 mL
	$K_2HPO_4 \cdot 3\ H_2O$	5.00 g / L dH_2O	
4.	$NaNO_3$	50.00 g / L dH_2O	1.2 mL
	Na_2CO_3	32.00 g / L dH_2O	
5.	H_3BO_3	1.00 g / L dH_2O	1 mL
6.	***Vitamin Solution:***		1 mL
	Vitamin B_{12}	0.20 mg / L dH_2O	
	Biotin (Vitamin H)	1.00 mg / L dH_2O	
	Thiamine-HCl (Vitamin B_1)	100.00 mg / L dH_2O	
	Niacinamide (Vitamin B_3)	0.10 mg / L dH_2O	
7.	***Trace Metals:***		1 mL
7.1.	Preparation of Trace Metal Solution:		
	$Na_2EDTA \cdot 2\ H_2O$: 4.36 g		
	$FeCl_3 \cdot 6\ H_2O$: 3.15 g		
	Dissolve 7.1. in 1 l dH_2O, then add 1 mL of Primary Trace Metal solutions each:		
7.2.	***Primary Trace Metals:***		
7.2.1.	K_2CrO_4	0.194 g / 100 mL dH_2O	
7.2.2.	$CoCl_2 \cdot 6\ H_2O$	1.00 g / 100 mL dH_2O	
7.2.3.	$CuSO_4 \cdot 5\ H_2O$	0.25 g / 100 mL dH_2O	

7.2.4.	$MnCl_2 \cdot 4\ H_2O$	18.00 g / 100 mL dH_2O
7.2.5.	$Na_2MoO_4 \cdot 2\ H_2O$	1.89 g / 100 mL dH_2O
7.2.6.	$NiSO_4 \cdot 6\ H_2O$	0.27 g / 100 mL dH_2O
7.2.7.	H_2SeO_3	0.13 g / 100 mL dH_2O
7.2.8.	Na_3VO_4	0.184 g / 100 mL dH_2O
7.2.9.	$ZnSO_4 \cdot 7\ H_2O$	2.20 g / 100 mL dH_2O



Supplementary Fig. 1 **a** When *Thorsmoerkia curvula* was kept at 8°C and an irradiation of 35 µmol photons m^{-2} s^{-1}, thicker cells with average sizes 15.1 ± 2.7 µm x 16.5 ± 2.6 µm and size ranges 11.4-21.2 µm x 12.9-21.4 µm appeared. **b** Occasionally, roundish stages without conical cell poles and with altered chloroplast morphology were developed in the depleted medium