

Supplemental information

**Ecophysiological and ultrastructural characterisation of the circumpolar orange snow
alga *Sanguina aurantia* compared to the cosmopolitan red snow alga *Sanguina nivaloides*
(Chlorophyta)**

Polar Biology

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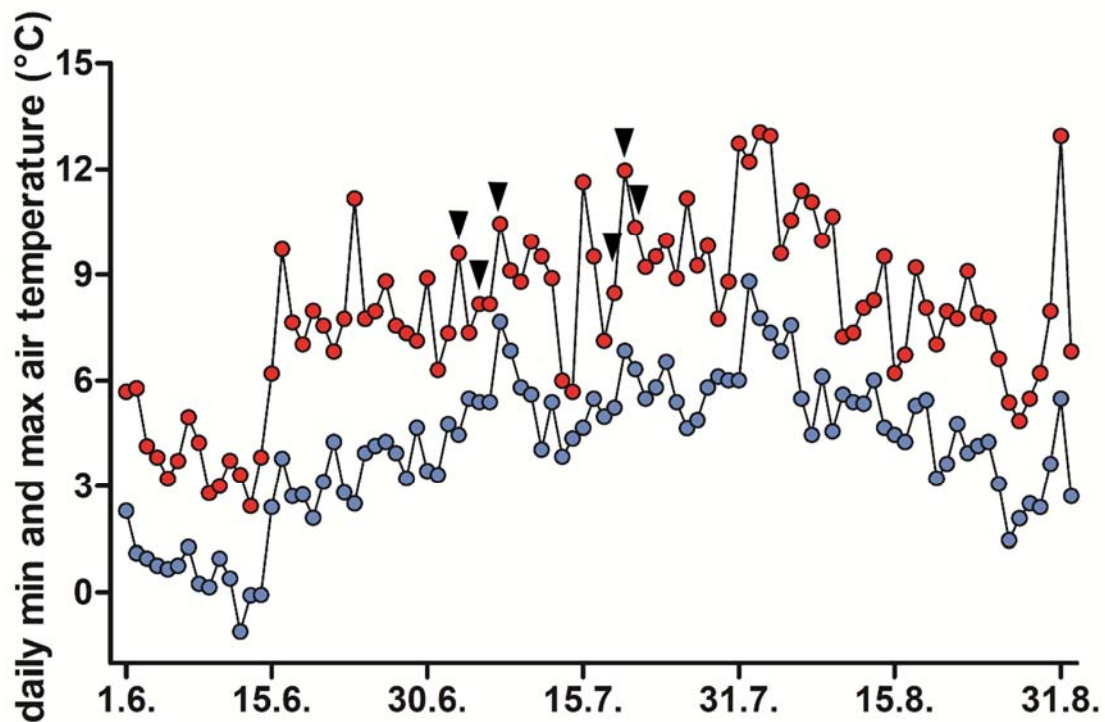
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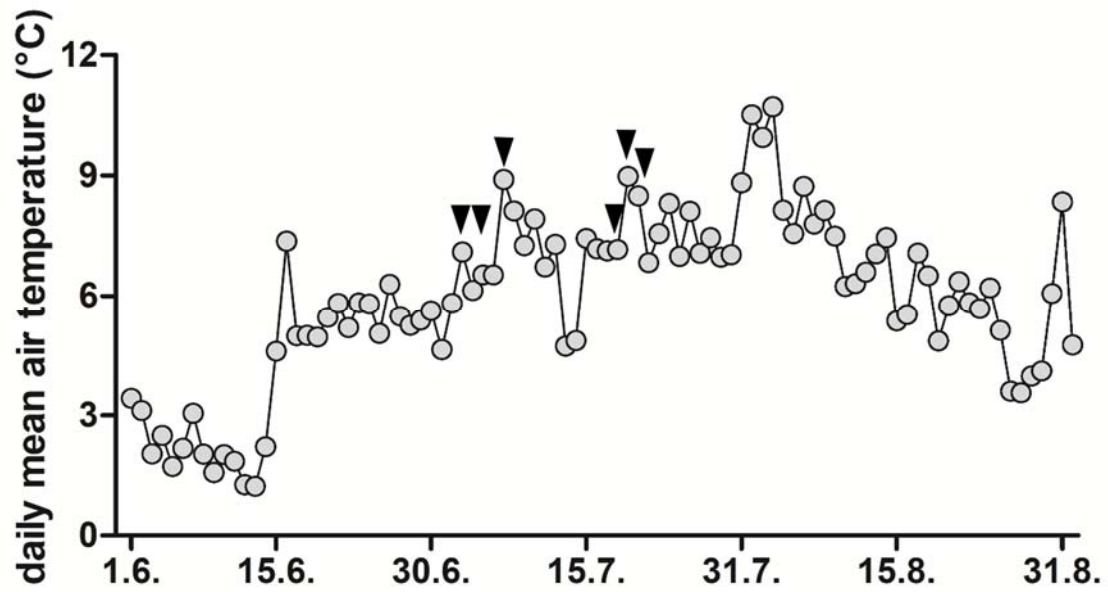
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Online Resource 1 Daily maximum (red) and daily minimum (blue) air temperature in summer period when the *Sanguina aurantia* and *Sanguina nivaloides* blooms are most often found in the Arctic (June to August 2018; Adventdalen). Black arrows indicate the dates of the snow harvest in course of this study



Online Resource 2 Daily mean air temperature in summer period when the *Sanguina aurantia* and *Sanguina nivaloides* blooms are most often found in the Arctic (June to August 2018; Adventdalen). Black arrows indicate the dates of the snow harvest in course of this study

Online Resource 3 Cellular fatty acid composition of *S. aurantia* and *S. nivaloides* field cysts in [%] of total fatty acids (TL; all samples) and in [%] of the three major lipid classes (samples WP199, WP204): Neutral lipids (NL), phospholipids (PL), and glycolipids (GL). The table shows only fatty acids that had abundances greater than 0.1%. The relative proportion of saturated (SAFA), monounsaturated (MUFA), and polyunsaturated (PUFA) fatty acids is also given.

Fatty acids	<i>Sanguina aurantia</i>							<i>Sanguina nivaloides</i>					
	WP199				MN13	MN21	WP206o	WP204				MN01	MN22
	TL	NL	PL	GL	TL	TL	TL	TL	NL	PL	GL	TL	TL
14:0	0.9	1.0	1.3	0.4	0.6	7.8	0.7	0.1	0.1	0	0	0.2	0.9
15:0	0.1	0.1	0	0	0.2	0.1	0.2	0	0	0	0	0	0.1
16:0	23.6	16.0	23.0	38.6	11.5	10.8	16.3	8.9	6	25.1	9.8	6.8	7.9
16:1(11Z)	0	0	0	0	0	0.1	0	0	0	0	0	0	0
16:1 (9Z)	1.2	0.2	6.8	0.0	0.4	1.4	0.7	0	0	0.1	0	0	0.2
16:1 (7Z)	0.5	0.7	0.7	0.1	2.3	1.8	3.6	1.7	2	0.6	1.4	1.2	2.0
16:3 (7Z,10Z,13Z)	1.3	1.5	2.5	0.2	1.5	0.5	0.7	3	3.4	1.9	1.8	3.5	3.8
16:4 (4Z,7Z,10Z,13Z)	6.9	10.3	5.0	1.4	4.3	2.1	1.9	11.1	11.3	9.7	11.4	8.3	7.0
17:0	0.1	0.1	0.1	0.1	0.3	0.2	0.4	0.1	0.1	0.1	0.1	0.1	0.2
18:0	23.3	8.2	20.5	54.2	38.5	30.4	49.2	7.3	6.8	3	13	18.2	11.8
18:1 (11Z)	0.8	0.6	2.7	0.1	1.8	0.0	1.2	2.1	1.6	5.8	1.4	1.2	2.6
18:1 (9Z)	22.5	35.8	13.3	2.3	17.3	27.1	11.9	26.3	29.8	8.1	24.4	25.2	27.6
18:2 (9Z,12Z)	6.2	8.9	7.1	0.5	6.6	4.3	6.1	18.7	21.1	12.5	12.3	13.3	12.1
18:3 (9Z,12Z,15Z)	9.5	12.2	14.7	1.3	8.4	2.6	3.6	13.8	12.1	21.7	15.7	14.8	16.0
18:4 (6Z,9Z,12Z,15Z)	1.5	2.0	1.8	0.3	2.3	6.0	1.1	6.3	5.2	10.7	8.2	4.0	6.0
19:0	0	0	0	0	0	0	0.1	0	0	0	0	0	0
19:3 (7Z,10Z,13Z)	0	0	0	0	0.1	0.6	0.1	0.1	0	0.6	0	0	0.1
20:0	0.8	1.1	0.2	0.4	1.4	0.7	1.1	0.5	0.5	0.1	0.5	2.2	0.9
20:2 (11Z, 14Z)	0	0	0	0	0	0	0	0	0	0	0	0.1	0
20:3 (11Z,14Z,17Z)	0	0	0	0	0.1	0.6	0	0	0	0	0	0.2	0.2
20:3 (8Z,11Z,14Z)	0	0	0	0	0.0	0.2	0	0	0	0	0	0	0
20:4 (8Z,11Z,14Z,17Z)	0	0	0	0	0.6	0.9	0.1	0	0	0	0	0.1	0.2
20:4 (5Z,8Z,11Z,14Z)	0	0	0	0	0.1	0.2	0	0	0	0	0	0	0
20:5 (5Z,8Z,11Z,14Z,17Z)	0	0	0	0	0.7	1.1	0.2	0	0	0	0	0	0.1
22:0	0.7	1.2	0.1	0.1	0.9	0.4	0.7	0	0	0	0	0.6	0.2
23:0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0
SAFA	49.6	27.8	45.3	93.8	53.4	50.5	68.6	16.9	13.5	28.3	23.4	28.1	22.0
MUFA	25.0	37.3	23.5	2.5	21.9	30.4	17.4	30.1	33.4	14.6	27.2	27.6	32.4
PUFA	25.4	34.9	31.2	3.7	24.7	19.2	13.8	53.0	53.1	57.1	49.4	44.3	45.5