

Supplementary Table S1. Details of the experimental series evaluating the growth of holopelagic *Sargassum genotypes* (sargasso) at different temperatures.

Experimental series	Genotypes	Initial trial date	Final trial date
1	<i>S. fluitans</i> III vs <i>S. natans</i> VIII	14/04/2021	19/04/2021
	<i>S. fluitans</i> III vs <i>S. natans</i> VIII	26/04/2021	31/05/2021
	<i>S. fluitans</i> III vs <i>S. natans</i> VIII	09/05/2021	14/05/2021
	<i>S. fluitans</i> III vs <i>S. natans</i> VIII	22/05/2021	27/05/2021
2	<i>S. fluitans</i> III vs <i>S. natans</i> I	02/07/2021	07/07/2021
	<i>S. fluitans</i> III vs <i>S. natans</i> I	15/07/2021	20/07/2021
3	<i>S. natans</i> I vs <i>S. natans</i> VIII	02/10/2021	07/10/2021
	<i>S. natans</i> I vs <i>S. natans</i> VIII	11/10/2021	16/10/2021
	<i>S. natans</i> I vs <i>S. natans</i> VIII	27/10/2021	01/11/2021

Supplement: Additional data on experimental series and Statistical tests

Supplementary Table S2: Two-way ANOVA testing for differences in relative growth rates of sargasso by genotype and temperature. Bold values indicate statistical significance at $p < 0.05$.

	MS	Df	F	<i>p</i>
Experimental series 1: <i>S. fluitans</i> III vs <i>S. natans</i> VIII				
Genotype	0.002	1	5.0	0.030
Temperature	0.002	3	3.7	0.017
Genotype \times temperature	0.001	3	3.4	0.025
Experimental series 2: <i>S. fluitans</i> III vs <i>S. natans</i> I				
Genotype	0.000	1	0.08	0.77
Temperature	0.001	3	0.84	0.48
Genotype \times temperature	0.001	3	0.73	0.54
Experimental series 3: <i>S. natans</i> I vs <i>S. natans</i> VIII				
Genotype	0.001	1	4.69	0.03
Temperature	0.000	3	0.73	0.53
Genotype \times temperature	0.000	3	0.26	0.84

Supplementary Table S3: Two-way ANOVA testing for differences in relative growth rate of sargasso by season and temperature. Bold values indicate statistical significance at $p < 0.05$.

	MS	Df	F	<i>p</i>
<i>S. fluitans</i> III				
Season	0.000	1	0.7	0.42
Temperature	0.002	3	3.6	0.02
Season \times temperature	0.000	3	0.6	0.63
<i>S. natans</i> I				
Season	78.81	1	10.7	0.003
Temperature	4.60	3	0.6	0.60
Season \times temperature	8.82	3	1.2	0.32
<i>S. natans</i> VIII				
Season	0.009	1	33.9	0.000
Temperature	0.001	3	2.1	0.115
Season \times temperature	0.000	3	0.9	0.436