

Wang, Y.-J., Stoks, R., Sentis, A. and Tüzün, N. 2020. Support for the climatic variability hypothesis depends on the type of thermal plasticity: lessons from predation rates. – *Oikos* doi: 10.1111/oik.07181

Appendix 1

Effect of a gradual temperature increase on the effect of the heat wave treatment

We conducted an extra heat wave treatment where gradual temperature increase was performed by exposing F0 animals at 24°C for one day, 29°C for one day, and 32°C for five days before measuring predation rates. The analysis focusing on predation rates at the 32°C extreme temperature showed that the presence of a gradual temperature increase had no significant effect on predation rates (Table A1, Fig. A1). This extra analysis confirmed the effects of source latitude and developmental temperature. Low-latitude larvae had higher predation rates compared to high-latitude larvae, and larvae developed at 20°C had higher predation rates compared to those developed at 24°C (Table A1, Fig. A1).

These results indicate that studies exposing animals more abruptly to their extreme temperature treatment (Seifert et al. 2015) may still generate meaningful results. Yet, it should be noted that larvae under the gradual temperature increase had been at 32°C for several days before being tested, and this might have contributed to the results.

References

Seifert et al. 2015. Extreme heat changes post-heat wave community reassembly. – *Ecol. Evol.* 5: 2140–2148.

Table A1. Results of the linear model testing for the effects of source latitude (Latitude), developmental temperature (Dev temp) and the presence of a gradual temperature increase (Gradual temp increase) on the predation rates of *Ischnura elegans* larvae at 32°C heat wave.

Effect	Predation rate		
	df	<i>F</i>	p
Latitude	1,66	20.64	< 0.0001
Dev temp	1,66	27.30	< 0.0001
Gradual temp increase	1,66	0.14	0.7087
Latitude × Dev temp	1,66	0.45	0.5069
Latitude × Gradual temp increase	1,66	0.68	0.4118
Dev temp × Gradual temp increase	1,66	0.04	0.8513
Latitude × Dev temp × Gradual temp increase	1,66	0.55	0.4627

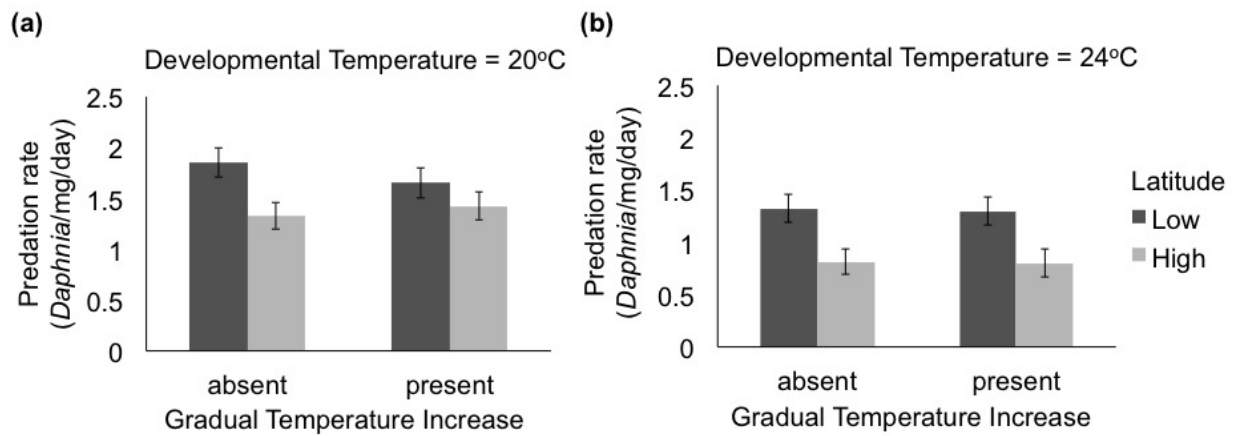


Figure A1. Effects of source latitude, developmental temperature and test temperature on the predation rates of *Ischnura elegans* larvae on *Daphnia magna* water fleas. Given are least-square means \pm 1 SE