

1 **Supplementary material for “Preferred temperature in the warmth of cities: body size, sex**
2 **and development stage matter more than urban climate in a ground-dwelling spider”**

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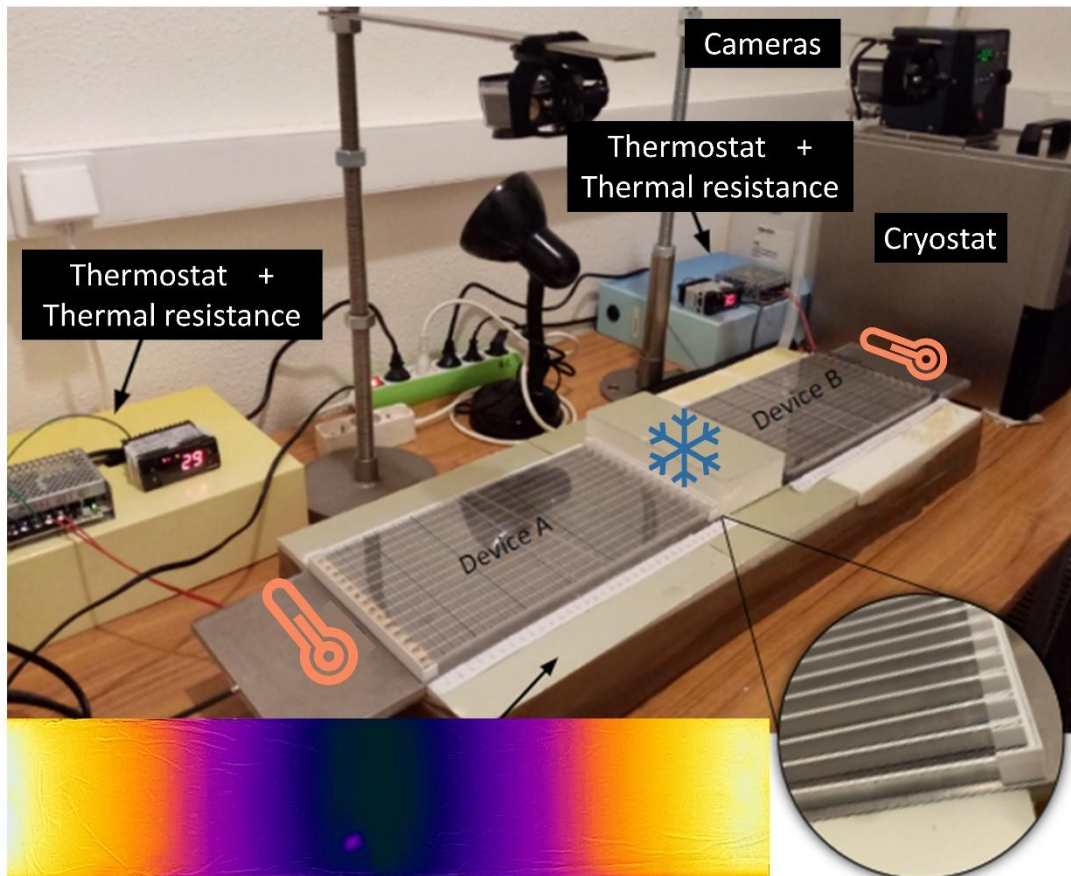
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30 juveniles. Significant results (P<0.05) are displayed in bold.

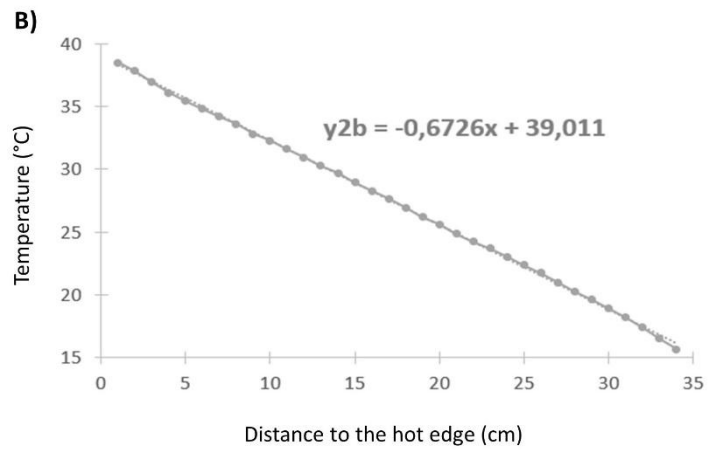
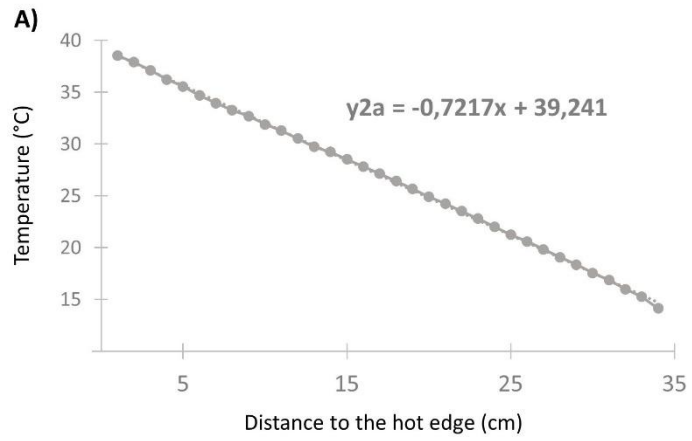
31 **Table S4:** Effects of ontogenetic (dev. stage, sex, body size and leg length) and environmental factors
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33 Results of three models are shown, differing in the UHI variable used, calculated on distinct time
34 intervals. Significant results (P<0.05) are displayed in bold.



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36 **Figure S1** – Laboratory gradient and corresponding thermal image

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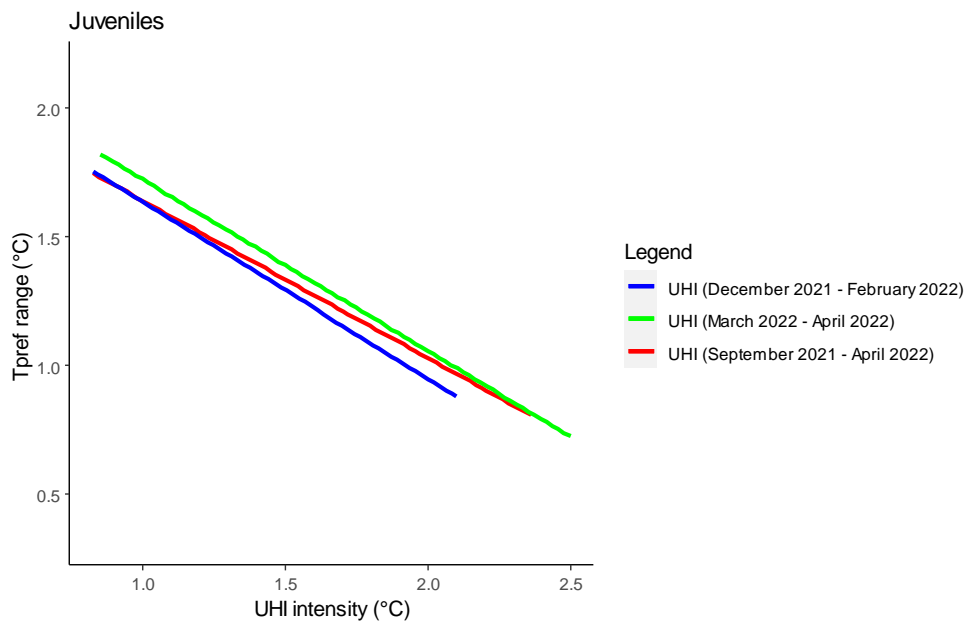


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39 **Figure S2** – Calibration curves related to gradients A) and B), obtained by temperatures measured every centimetre with
 40 thermocouples as a function of the distance to the warmer point.

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44 **Figure S3** - Significant negative relationship between Tpref range of juveniles *P. saltans* and three UHI variables measured
45 on distinct time intervals

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47 **Table S1** - Effects of time interval on mean Tpref values estimated by generalized linear mixed models (GLMM). Results of
 48 four models are shown, differing in range of time intervals included as fixed effects. Significant results (P<0.05) are
 49 displayed in bold.

Random effects (Id individual):		Fixed effects (time interval):		ANOVA:			
Groups	Std.Dev.	Time interval	Estimate	Chisq	Df	P-value	
1.	Id_individual	1.861	Intercept	32.358	134.74	7	2.2E-16
	Residual	1.907	10-20min	0.6098			
			20-30min	0.8662			
			30-40min	1.1071			
			40-50min	1.0198			
			50-60min	0.978			
			60-70min	1.0206			
			70-80min	1.1094			
2.	Id_individual	1.871	Intercept	32.9675	31.245	6	2.28E-05
	Residual	1.717	20-30min	0.2542			
			30-40min	0.4957			
			40-50min	0.4092			
			50-60min	0.3698			
			60-70min	0.4065			
			70-80min	0.4984			
			3.	Id_individual			
Residual	1.562	30-40min		0.2431			
		40-50min		0.1589			
		50-60min		0.1211			
		60-70min		0.1507			
		70-80min		0.2442			
4.	Id_individual	1.973	Intercept	33.46064	3.0011	4	0.5576
	Residual	1.45	40-50min	-0.082864			
			50-60min	-0.119363			
			60-70min	-0.095265			
			70-80min	0.001278			

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52 **Table S2** – Results of GLMM post hoc testing all possible combinations of interacting factors ‘sex’ and ‘developmental
 53 stage’. Post hoc tests were performed separately on models related to mean Tpref and Tpref range. Significant results
 54 (P<0.05) are in bold.

	Estimate	Std. error	P-value
Mean Tpref			
Adult F - Juvenile F	1.005	0.260	<0.001
Adult F - Adult M	0.876	0.327	0.037
Adult F - Juvenile M	0.480	0.300	0.377
Juvenile F - Adult M	-0.129	0.269	0.963
Juvenile F - Juvenile M	-0.525	0.265	0.197
Adult M - Juvenile M	-0.396	0.253	0.398
Tpref range			
Adult F - Juvenile F	0.085	0.194	0.972
Adult F - Adult M	-1.053	0.180	<0.001
Adult F - Juvenile M	0.452	0.202	0.114
Juvenile F - Adult M	-1.137	0.191	<0.001
Juvenile F - Juvenile M	0.368	0.214	0.312
Adult M - Juvenile M	1.505	0.199	<0.001

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58 **Table S3** – Effects of UHI intensity on Tpref range estimated by linear models. Results of two models are shown, computed
 59 on two separated datasets including respectively only adult individuals or juveniles. Significant results (P<0.05) are
 60 displayed in bold.

	Estimate	Std. error	P-value	R ²
Adults				
UHI intensity (March to April 2022)	-0.202	0.154	0.191	0.006
Juveniles				
UHI intensity (March to April 2022)	-0.658	0.189	<0.001	0.005

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64 **Table S4** - Effects of ontogenetic (dev. stage, sex, body size and leg length) and environmental factors (UHI intensity) on
 65 juveniles' Tpref range estimated by generalized linear mixed models (GLMM). Results of three models are shown, differing
 66 in the UHI variable used, calculated on distinct time intervals. Significant results (P<0.05) are displayed in bold.

	Estimate	Std. error	P-value	R ²
<i>UHI: March to April 2022</i>				0.140
Development stage	0.834	0.438	0.057	
Sex	1.053	0.180	<0.001	
UHI intensity	-0.128	0.148	0.387	
Development stage : Sex	-1.420	0.279	<0.001	
Development stage : UHI intensity	-0.580	0.238	0.015	
<i>UHI: September 2021 to April 2022</i>				0.131
Development stage	0.771	0.455	0.090	
Sex	1.058	0.181	<0.001	
UHI intensity	-0.080	0.161	0.622	
Development stage : Sex	-1.400	0.280	<0.001	
Development stage : UHI intensity	-0.575	0.265	0.030	
<i>UHI: December 2021 to February 2022</i>				0.127
Development stage	0.899	0.518	0.082	
Sex	1.064	0.181	<0.001	
UHI intensity	-0.025	0.196	0.897	
Development stage : Sex	-1.374	0.280	<0.001	
Development stage : UHI intensity	-0.697	0.330	0.034	

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