Supplementary materials

From the article 'Extinction drives recent thermophilization but does not trigger homogenization in forest understory'

Table S1: Thermophilization and Δβ-diversity and their component mean value (Value) and standard deviation (s.d) across 80 forest ecoregions. The value from the original dataset (12,764 pairs of plots) and the randomized thermal optimum null model (see methods) are displayed. The P-value were obtained with a Wilcoxon one sample test against 0.

Variable	***Original dataset***			***Null thermophilization model***		
	Value	**s.d**	**P-value**	**Value**	**s.d**	**P-value**
Thermophilization	0,0121	0,011	<0.001	-0,000927	0,0078	0.358
Extinction	0,0118	0,0088	<0.001	-0,000771	0,006	0.203
Colonization	0,00025	0,0069	0.643	-0,000156	0,0048	0.707
Cold-adapted extinction	0,0259	0,014	<0.001	0,193	0,095	<0.001
Cold-adapted colonization	-0,014	0,0089	<0.001	-0,194	0,095	<0.001
Warm-adapted extinction	-0,0128	0,0066	<0.001	-0,126	0,058	<0.001
Warm-adapted colonization	0,0131	0,0064	<0.001	0,126	0,058	<0.001
Δβ-diversity	0,304	1,4	0.0891	0,304	1,4	0.0891
Extinction	-0,735	0,94	<0.001	-0,735	0,94	<0.001
Colonization	1,04	0,94	<0.001	1,04	0,94	<0.001
Cold-adapted extinction	-0,716	0,82	<0.001	-0,368	0,47	<0.001
Cold-adapted colonization	-0,0186	0,48	0.671	-0,367	0,46	<0.001
Warm-adapted extinction	0,844	0,68	<0.001	0,523	0,47	<0.001
Warm-adapted colonization	0,195	0,46	0.000511	0,517	0,47	<0.001

Table S2: Thermophilization and Δβ-diversity and their component mean value (Value) and standard deviation (s.d) across 80 forest ecoregions. Two randomizations of the of the original dataset are displayed: the rarefaction model where the two periods have equal total occurrences and the repeated sample of within the climatic grid of the ClimPlant database instead of the mean value. The P-value were obtained with a Wilcoxon one sample test against 0.

Variable	***Rarefaction null model***			***ClimPlant uncertainty bootstrap***		
	Value	**s.d**	**P-value**	**Value**	**s.d**	**P-value**
Thermophilization	0,121	0,11	<0.001	0,129	0,12	<0.001
Extinction	0,107	0,073	<0.001	0,125	0,095	<0.001
Colonization	0,014	0,077	0.109	0,00347	0,073	0.535
Cold-adapted extinction	0,212	0,086	<0.001	0,472	0,23	<0.001
Cold-adapted colonization	-0,105	0,054	<0.001	-0,347	0,18	<0.001
Warm-adapted extinction	-0,151	0,064	<0.001	-0,27	0,13	<0.001
Warm-adapted colonization	0,165	0,071	<0.001	0,274	0,13	<0.001
Δβ-diversity	-0,337	1,5	0.0852	0,304	1,4	0.09
Extinction	-0,995	0,93	<0.001	-0,735	0,91	<0.001
Colonization	0,658	0,96	<0.001	0,969	0,92	<0.001
Cold-adapted extinction	-0,82	0,78	<0.001	-0,531	0,56	<0.001
Cold-adapted colonization	-0,175	0,42	0.000343	-0,204	0,41	<0.001
Warm-adapted extinction	0,741	0,7	<0.001	0,651	0,54	<0.001
Warm-adapted colonization	-0,0828	0,52	0.274	0,318	0,42	<0.001

Table S3: Thermophilization and Δβ-diversity and their component mean value (Value) and standard deviation (s.d) across 80 forest ecoregions. The analysis was performed with two other thermal optimum value, from the original 2005 and a 2019 analysis of the EcoPlant database[1]. The P-value were obtained with a Wilcoxon one sample test against 0.

Variable	***EcoPlant Thermal optimum 2005***			***EcoPlant thermal optimum 2019***		
	Value	**s.d**	**P-value**	**Value**	**s.d**	**P-value**
Thermophilization	0,115	0,16	<0.001	0,0669	0,23	0.00462
Extinction	0,1	0,084	<0.001	0,0763	0,12	<0.001
Colonization	0,0149	0,12	0.144	-0,00938	0,17	0.331
Cold-adapted extinction	0,287	0,16	<0.001	0,326	0,18	<0.001
Cold-adapted colonization	-0,187	0,13	<0.001	-0,25	0,18	<0.001
Warm-adapted extinction	-0,171	0,093	<0.001	-0,216	0,13	<0.001
Warm-adapted colonization	0,186	0,11	<0.001	0,207	0,17	<0.001
Δβ-diversity	0,0824	1,2	0.918	0,0829	1,1	0.964
Extinction	-0,657	0,75	<0.001	-0,105	0,61	0.0265
Colonization	0,74	0,82	<0.001	0,188	0,67	0.0318
Cold-adapted extinction	-0,58	0,66	<0.001	-0,283	0,48	<0.001
Cold-adapted colonization	-0,0776	0,46	0.145	0,178	0,44	0.0019

Warm-adapted extinction	0,546	0,54	<0.001	0,24	0,48	<0.001
Warm-adapted colonization	0,194	0,47	0.000927	-0,052	0,36	0.259

References

1. Gégout, J.-C., Coudun, C., Bailly, G. & Jabiol, B. EcoPlant: A forest site database linking floristic data with soil and climate variables. *J. Veg. Sci.* **16**, 257–260 (2005).