

## Supplementary Material

**Table S1:** Petri dish choice experiments; comparison of bark cores sampled from roofed (R), non-roofed (nR) and control (C) trees; time proportion (mean relative time  $\pm$  std dev) spent by test beetles in sections T and C; mean time ( $\pm$  std dev) until male *Ips typographus* test beetles made a final decision regarding all test runs (replicates) of an experiment; na=not applicable (n=0 or 1).

Experiments/Pair of samples		mean relative time (%) spent by beetles in			mean time till choice (sec) when beetles decided for					
T tree	C tree	section T	section C	$\pm$ stdev	T	$\pm$ stdev	C	$\pm$ stdev	T or C	$\pm$ stdev
R1	C1	68,12	31,88	21,42	647	898	1343	996	956	954
R2	C2	54,86	45,14	22,05	2097	1117	1506	1143	1675	1127
R3	C1	56,08	43,92	31,82	930	695	554	930	769	755
R3	C2	55,23	44,77	20,66	1782	820	1027	258	1263	1058
R4	C1	41,26	58,74	31,38	662	516	1294	1004	1041	869
R4	C2	47,95	52,05	28,18	1339	839	705	466	1054	753
R5	C2	48,26	51,74	25,54	942	979	1248	642	1135	771
R6	C1	54,18	45,82	32,45	1314	687	1320	537	1316	593
R9	C1	64,43	35,57	27,13	705	456	182	na	640	461
nR1	C1	53,42	46,58	20,44	1497	1306	1097	783	1257	944
nR1	C2	48,18	51,82	16,36	1758	668	1277	720	1536	708
nR3	C1	26,04	73,96	25,42	2756	1029	1362	1149	1672	1154
nR3	C2	40,83	59,17	25,44	1753	866	1123	826	1407	882
nR4	C2	43,38	56,62	24,86	947	640	1331	863	1182	788
nR5	C2	51,90	48,10	23,95	1881	1071	896	1197	1290	1199
nR7	C1	27,36	72,64	24,65	899	848	1645	1280	1397	1130
nR7	C2	45,46	54,54	31,42	449	576	1492	1136	1101	1060
nR8	C1	54,00	46,00	32,06	511	489	1389	1231	1096	1095
nR8	C2	51,19	48,81	36,67	1151	789	1007	1045	1108	814
nR9	C1	42,01	57,99	44,17	10	7	788	656	594	661
nR9	C2	47,71	52,29	26,14	1312	983	1193	787	1229	825
nR10	C2	22,79	77,21	23,54	1158	34	468	481	606	514
no sample	C2	37,48	62,52	34,56	na	na	723	547	723	547
R3	nR10	50,67	49,33	32,56	1071	1011	1166	1221	1109	1033
R2	nR8	49,69	50,31	24,69	914	731	87	81	666	719
R2	R3	41,13	58,87	33,11	840	288	1225	1243	1148	1112
R9	nR9	32,67	67,33	35,93	400	474	390	557	394	517
C1	C2	42,93	57,07	32,61	627	561	553	562	587	552

**Table S2:** Mean pre-dawn twig water potentials (TWP  $\pm$  std dev; n=4) of study trees measured in May, July, and August 2020 and mean size of hypersensitive wound reaction zones in the bark of test trees (WRZ size  $\pm$  std dev, mm<sup>2</sup>; n=4) measured six weeks after inoculation with *Grosmannia penicillata*.

Study tree	TWP_May 20	$\pm$ std dev	TWP_July 1	$\pm$ std dev	TWP_Aug 5	$\pm$ std dev	WRZ size	$\pm$ std dev
R1	-0,93	0,07	-0,63	0,05	-0,68	0,03	4851	2041,8
R2	-1,13	0,27	-0,45	0,04	-0,49	0,05	1048	630,9
R3	-0,78	0,03	-0,43	0,03	-0,68	0,05	3166	347,8
R4	-0,78	0,05	-0,67	0,03	-0,63	0,04	4278	2520,1
R5	-0,80	0,04	-0,50	0,00	-0,56	0,10	2404	882,6
R6	-0,78	0,05	-0,53	0,07	-0,59	0,16	2836	918,8
R9	-0,86	0,08	-0,59	0,06	-0,50	0,00	1333	434,8
nR1	-0,64	0,11	-0,30	0,06	-0,38	0,03	2287	507,3
nR3	-0,50	0,00	-0,34	0,05	-0,42	0,03	2694	849,7
nR4	-0,54	0,05	-0,39	0,03	-0,40	0,04	1493	422,1
nR5	-0,61	0,03	-0,30	0,04	-0,41	0,08	2255	614,3
nR7	-0,55	0,04	-0,38	0,03	-0,48	0,07	1388	664,4
nR8	-0,56	0,09	-0,39	0,09	-0,39	0,05	1620	652,7
nR9	-0,51	0,03	-0,33	0,03	-0,45	0,00	1810	211,1
nR10	-0,74	0,05	-0,36	0,03	-0,38	0,07	1681	837,9

**Table S3:** Petri dish choice experiments; comparison of bark cores sampled from roofed (T=R), non-roofed (T=nR) and control (C1, C2) trees; Pearson correlations (r, significance p, number of replicates n) of the drought stress parameter pre-dawn twig water potential (TWP) measured in May, July and August 2020 and size of hypersensitive wound reaction zone (WRZ size) and proportion (%) of T choices and mean relative (%) time spent in T section by beetles, respectively; significant correlations are indicated in bold.

	Stress and defense parameter		% T Choices		mean % time in T	
Experiments	pd TWP	n	r	p	r	p
T and C1	May	10	<b>0,823</b>	<b>0,003</b>	<b>0,771</b>	<b>0,009</b>
	July	10	<b>0,686</b>	<b>0,028</b>	0,469	0,172
	August	10	0,387	0,269	0,387	0,269
T and C2	May	12	0,209	0,515	0,231	0,470
	July	12	0,233	0,465	0,180	0,577
	August	12	0,385	0,217	0,434	0,159
T and C	May	22	0,227	0,310	<b>0,496</b>	<b>0,019</b>
	July	22	<b>0,447</b>	<b>0,037</b>	0,347	0,086
	August	22	0,367	0,093	0,410	0,058
	Mean (May, July, Aug)	22	0,140	0,535	<b>0,574</b>	<b>0,005</b>
Experiments	WRZ size	n	r	p	r	p
T and C1	all study trees	10	0,059	0,870	0,254	0,480
	without outlier R9	9	0,657	0,055	0,469	0,203
T and C2	all study trees	12	0,565	0,056	0,142	0,660
	without outlier nR8	11	<b>0,815</b>	<b>0,002</b>	0,182	0,593
T and C	all study trees	22	0,276	0,214	0,229	0,306
	without outliers R9 and nR8	20	<b>0,651</b>	<b>0,003</b>	0,398	0,091