

**Supplementary Table S1.** Total number of pooled beetles identified and processed for *Cryphonectria parasitica* real-time.

Insect species	West Sussex	Devon	London	Total
<b>Ambrosia beetles</b>				
<i>Xylosandrus germanus</i>	483	3	0	486
<i>Anisandrus dispar</i>	25	345	24	394
<i>Xyleborinus saxesenii</i>	4	58	152	214
<i>Xyleborus dryographus</i>	0	5	0	5
<i>Trypodendron domesticum</i>	7	73	0	80
<i>Trypodendron signatum</i>	0	16	0	16
<b>Bark beetles</b>				
<i>Dryocoetes villosus</i>	2	34	0	36
<i>Hylesinus wachtli</i>	0	12	0	12
<b>Total</b>	521	546	176	1,243

**Supplementary Table S2.** Isolated and identified fungal species from alive dry-collected three ambrosia beetle species, one bark beetle, and two hyper parasitic wasps’ species, with indication of the originals or respective dilutions positive culture isolations distribution indicated by black shaded areas. Note: Crushed insects only rendered bacteria that were not identified to species level.

		AMBROSIA BEETLES																BARK BEETLES								HYMENOPTERA												
		Acc. No.	<i>Xylosandrus germanus</i>						<i>Anisandrus dispar</i>						<i>Xyleborinus saxeseni</i>						<i>Dryocoetes villosus</i>				<i>Dryocosmus kuriphilus</i>						<i>Torymus flavipes</i>							
			1	1	1:10	1:10	1:100	1:100	1	1	1:10	1:10	1:100	1:100	1	1	1:10	1:10	1:100	1:100	1	1	1:10	1:10	1:100	1:100	1	1	1:10	1:10	1:100	1:100	1	1	1:10	1:10	1:100	1:100
Fungal taxon			R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2		
1	<i>Acremonium sclerotigenum</i>	OK661035																																				
2	<i>Alternaria infectoria</i>	OK661036																																				
3	<i>Ambrosiella grossmanniae</i>	OK661037																																				
4	<i>Ambrosiella hartigii</i>	OK661038																																				
5	<i>Aureobasidium pullulans</i>	OK661039																																				
6	<i>Botrytis cinerea</i>	OK661040																																				
7	<i>Cladosporium cf. allicinum</i>	OK661041																																				
8	<i>Cladosporium cladosporioides</i>	OK661042																																				
9	<i>Cladosporium cf. sloanii</i>	OK661043																																				
10	<i>Cryptocline actostaphyli</i>	OK661044																																				
11	<i>Daldinia concentrica</i>	OK661045																																				
12	<i>Fusarium avenaceum</i>	OK661046																																				
13	<i>Geosmithia flava</i>	OK661047																																				
14	<i>Gnomoniopsis smithogilvyi</i>	OK661048																																				
15	<i>Haplographium penicillioides</i>	OK661049																																				
16	<i>Metapochonia bubillosa</i>	OK661050																																				
17	<i>Mortierella gamsii</i>	OK661051																																				
18	<i>Ophiostoma solheimii</i>	OK661052																																				
19	<i>Paraphacosphaeria neglecta</i>	OK661053																																				
20	<i>Penicillium bialowizense</i>	OK661054																																				
21	<i>Penicillium brevicompactum</i>	OK661055																																				

Supplementary Table S2. Continued.

[illegible]

**Supplementary Table S3.** General correlation analyses between the quantity of trapped spores (estimated either via spore serial dilutions or fragment copy number dilutions) and meteorological parameters. The dark shaded areas indicate significant correlations ( $p < 0.05$ ).

[illegible]