Supplementary information

Assessing airborne fungal communities by high-throughput sequencing using passive traps

Fig S1. NMDS representing the five types of trap used in this study. ANOSIM revealed a significant effect of the type of trap (R = 0.29, p = 0.001).

Codes indicate the type of passive traps used in this paper: PJ, Petri dish coated with a mix of petroleum jelly and Vaseline; W1, Whatman® filter n°1; W1g, Whatman® filter n°1 sprayed with a sticky layer; W3, Whatman® filter n°3 and W3g, Whatman® filter n°3 sprayed with a sticky layer

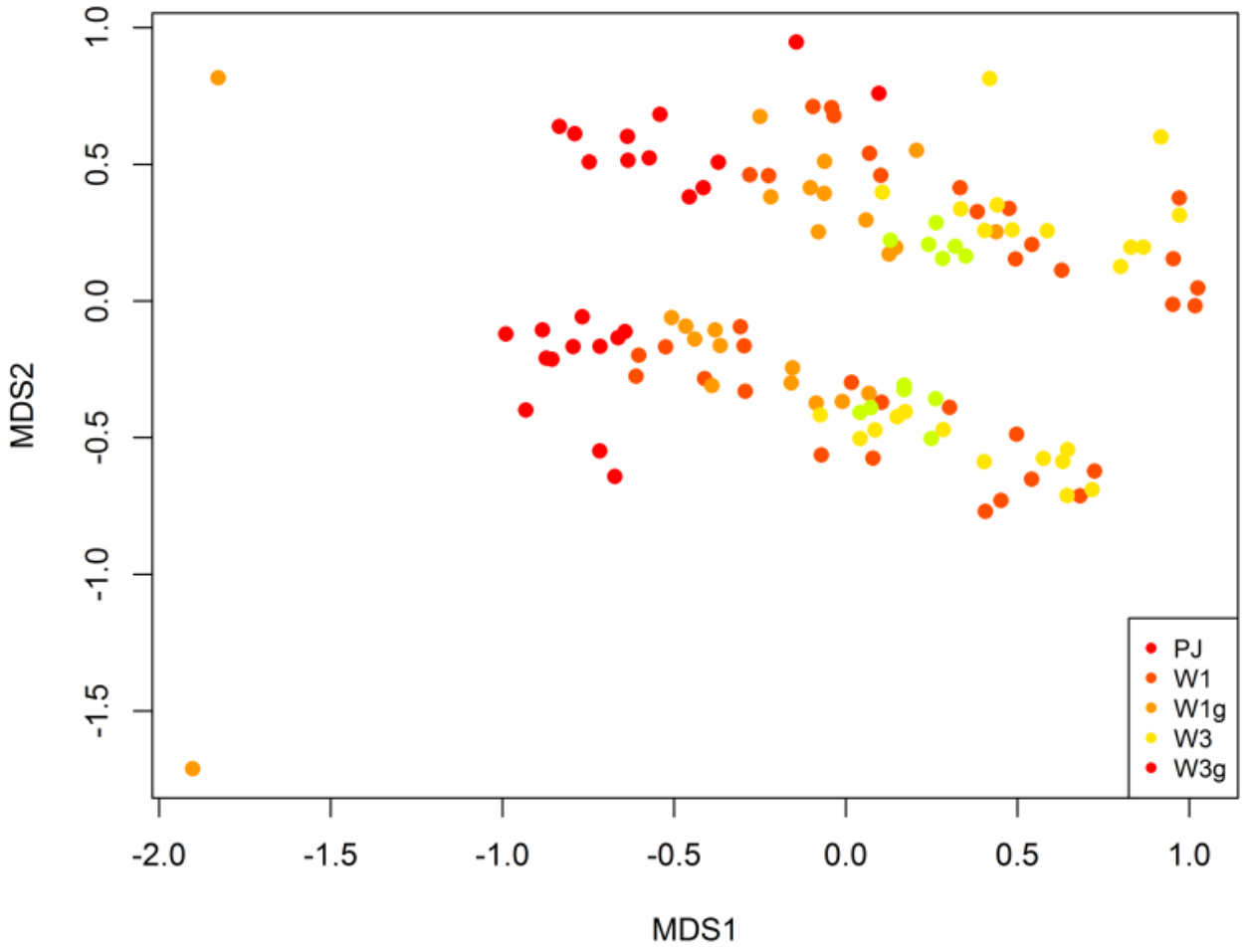


Fig. S2. NMDS representing the three spore recovery methods used in this study. ANOSIM revealed a significant effect of the spore recovery method (R = 0.43, p = 0.001).

Codes indicate the spore recovery protocols used in this paper: G, grinding; R, rubbing and S, shaking.

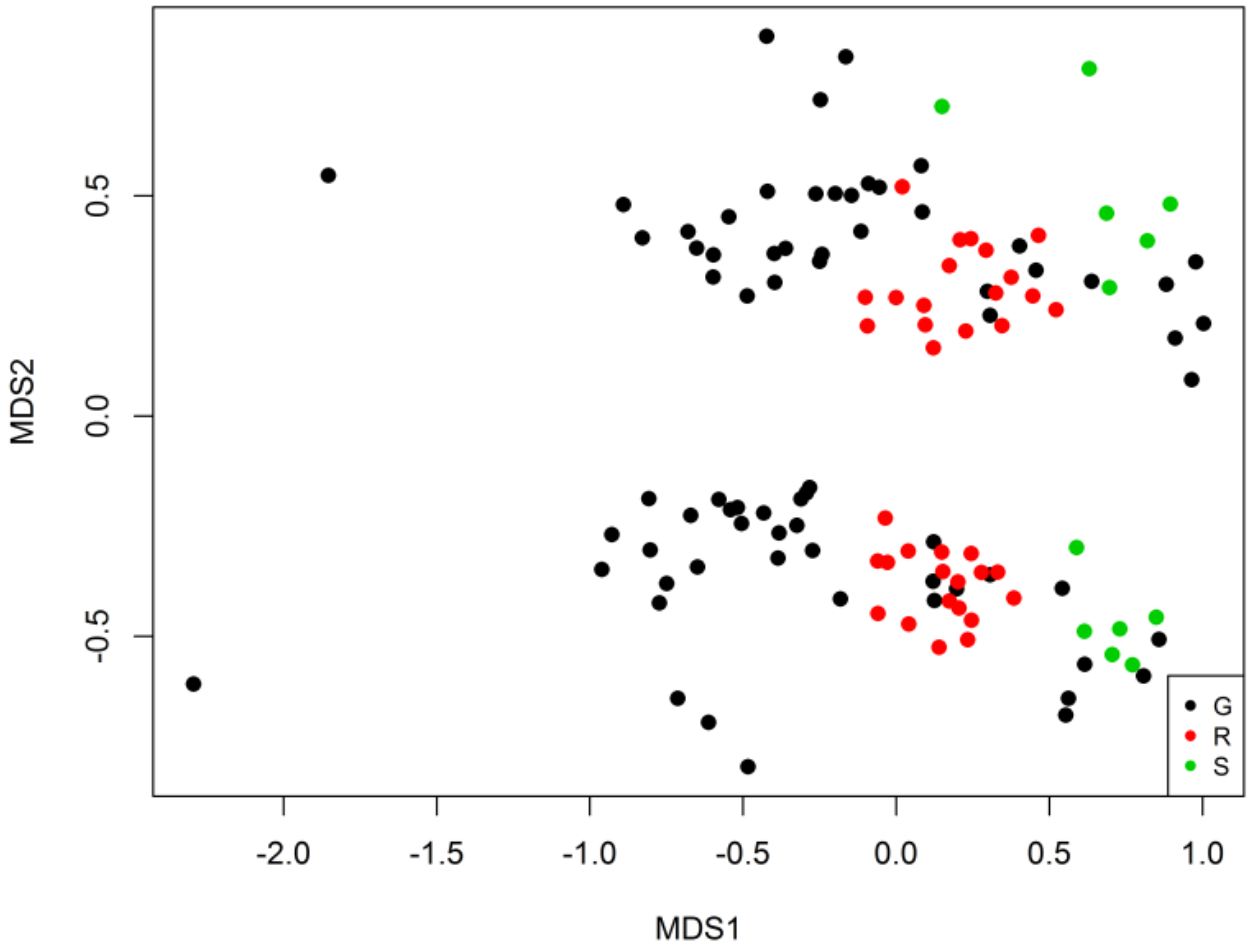


Fig. S3. NMDS representing the DNA extraction kits used in this study. ANOSIM did not reveal a significant effect of the DNA extraction kit on the community structure represented by NMDS ($R = 0$, $p = 0.42$).

Codes indicate the DNA extraction kits used in this paper: mnM, NucleoSpin® Plant II kit; mnQ, DNeasy® Plant Mini Kit; mxM, NucleoSpin® Plant II Maxi kit and mxQ, DNeasy® Plant Maxi Kit.

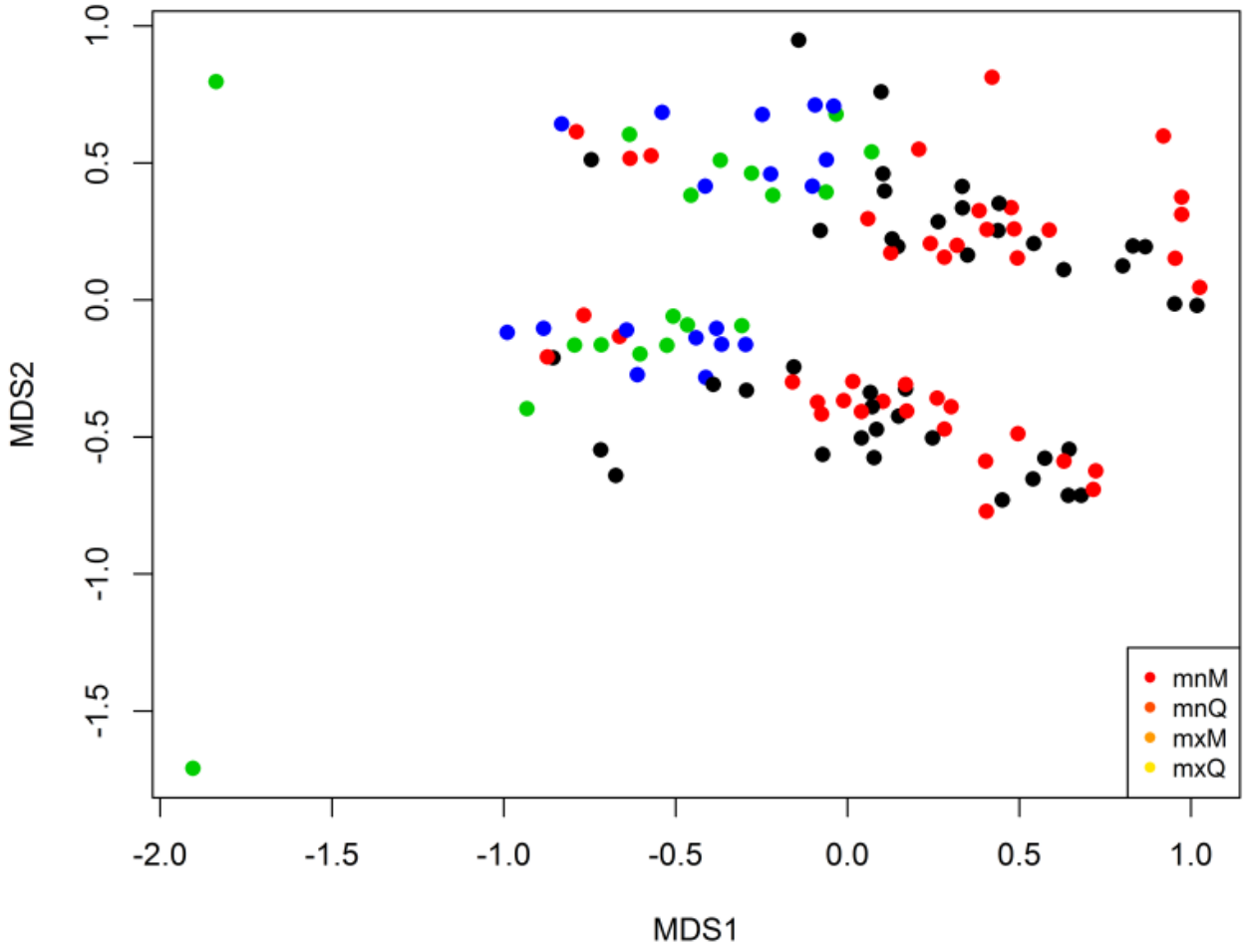
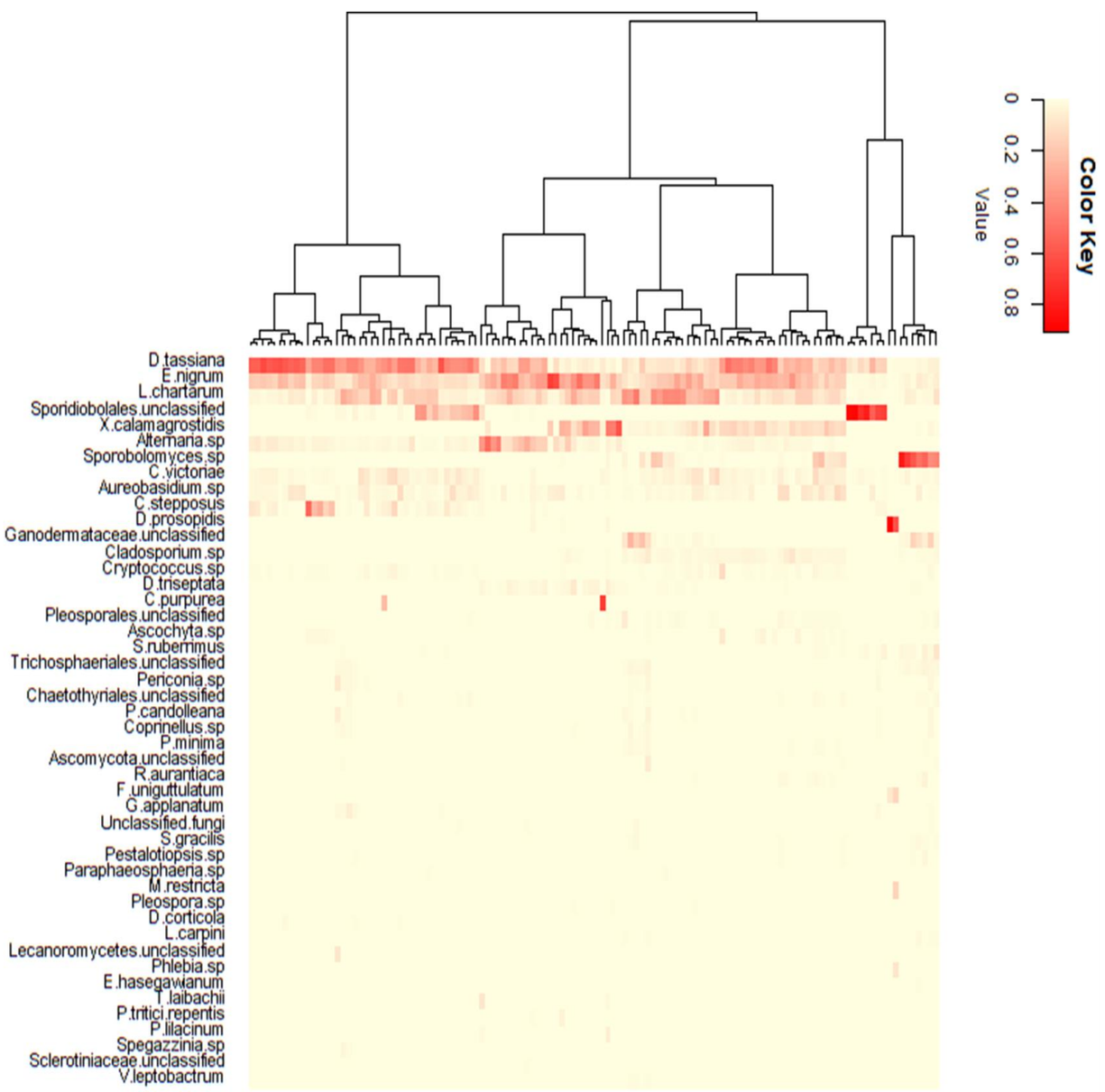


Fig. S4. Heat map based on the Bray-Curtis dissimilarity distance representing all the replicates of exposed traps. Six clusters were observed.

Codes indicate the technical procedures used in this paper:

- Type of trap: PJ, Petri dish coated with a mix of petroleum jelly and Vaseline; W1, Whatman® filter n°1; W1g, Whatman® filter n°1 sprayed with a sticky layer; W3, Whatman® filter n°3 and W3g, Whatman® filter n°3 sprayed with a sticky layer.
- Spore recovery protocol: G, grinding; R, rubbing and S, shaking.
- DNA extraction kit: mnM, NucleoSpin® Plant II kit; mnQ, DNeasy® Plant Mini Kit; mxM, NucleoSpin® Plant II Maxi kit and mxQ, DNeasy® Plant Maxi Kit

Letters (a, b, c) represent technical replicates of each combination of spore trap, spore recovery protocol and DNA extraction kit.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Value
D.tassiana
E.nigrum
L.chartarum
Sporidiobolales.unclassified
X.calamagrostidis
Alternaria.sp
Sporobolomyces.sp
C.victoriae
Aureobasidium.sp
C.stepposus
D.prosopidis
Ganodermataceae.unclassified
Cladosporium.sp
Cryptococcus.sp
D.triseptata
C.purpurea
Pleosporales.unclassified
Ascochyta.sp
S.rubernimus
Trichosphaeriales.unclassified
Periconia.sp
Chaetothyriales.unclassified
P.candolleana
Coprinellus.sp
P.minima
Ascomycota.unclassified
R.aurantiaca
F.uniguttulatum
G.applanatum
Unclassified.fungi
S.gracilis
Pestalotiopsis.sp
Paraphaeosphaeria.sp
M.restricta
Pleospora.sp
D.corticola
L.carpini
Lecanoromycetes.unclassified
Phlebia.sp
E.hasegawianum
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Spegazzinia.sp
Sclerotiniaceae.unclassified
V.leptobactrum

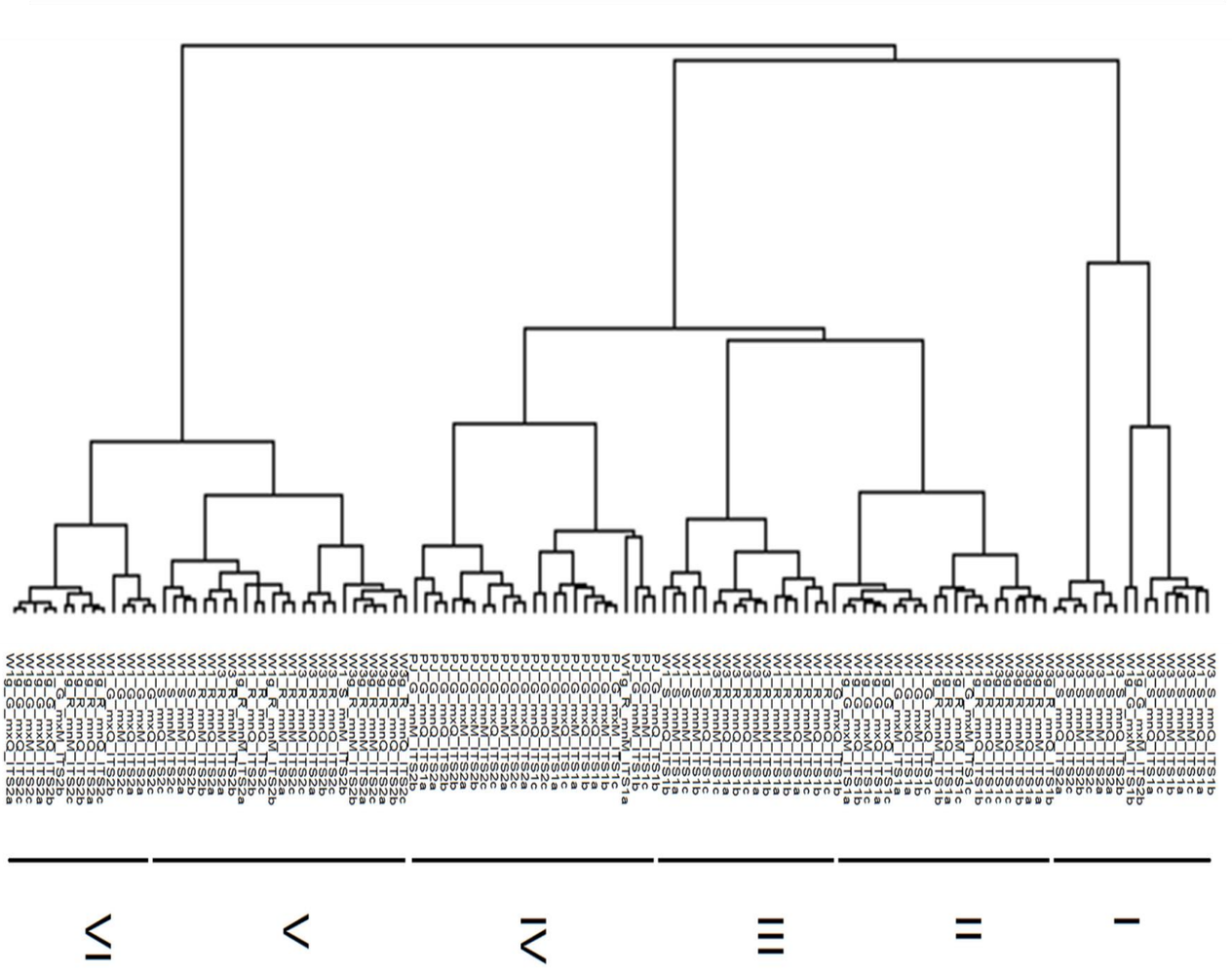
I
II
III
IV
V
VI

Fig. S5. Stacked bar plots of the most abundant OTUs in exposed traps. OTUs are represented at genus level. Replicates of samples were grouped together.

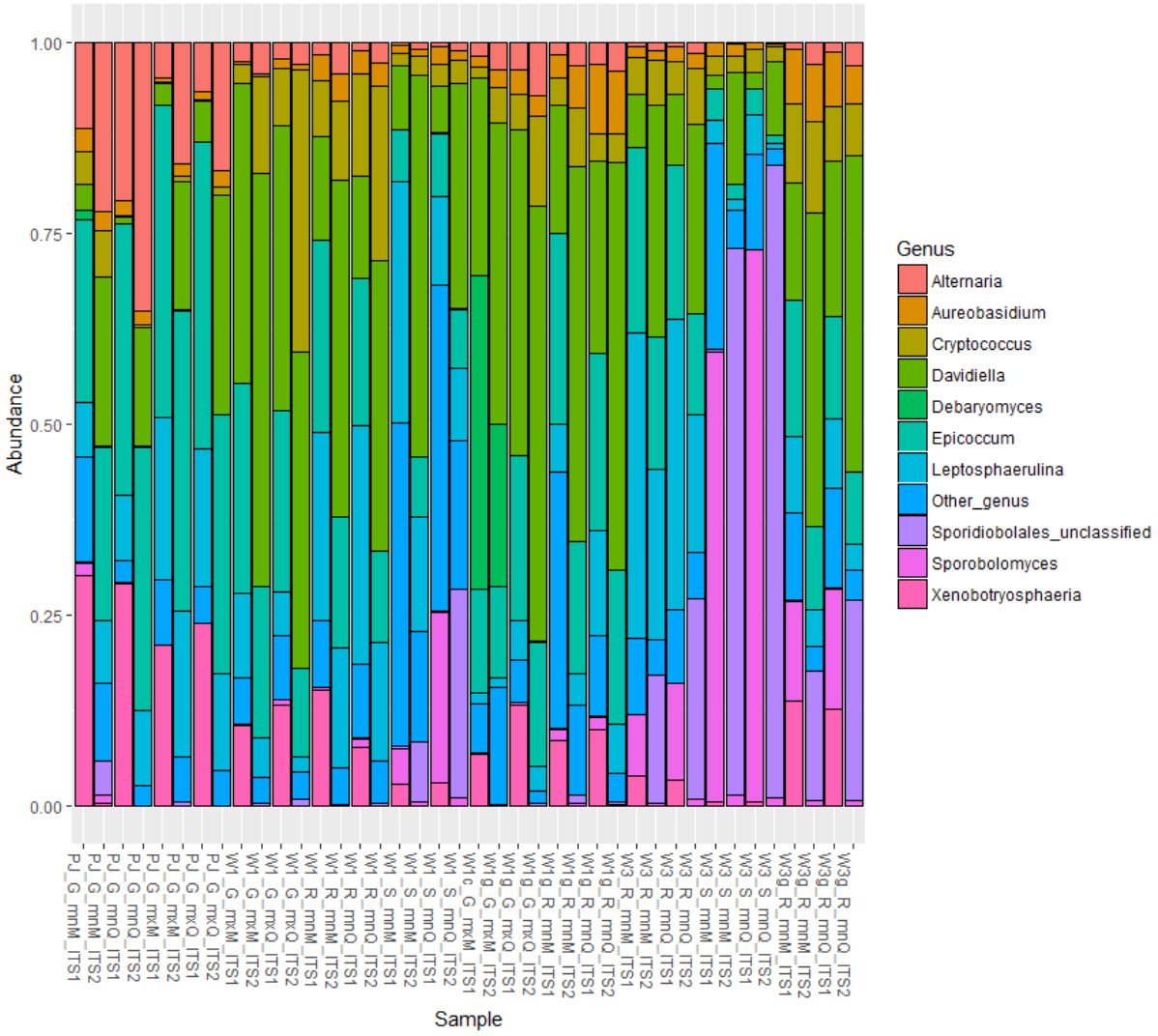

Fig. S6. Spore trap based on the Whatman® grade 3 paper filter.

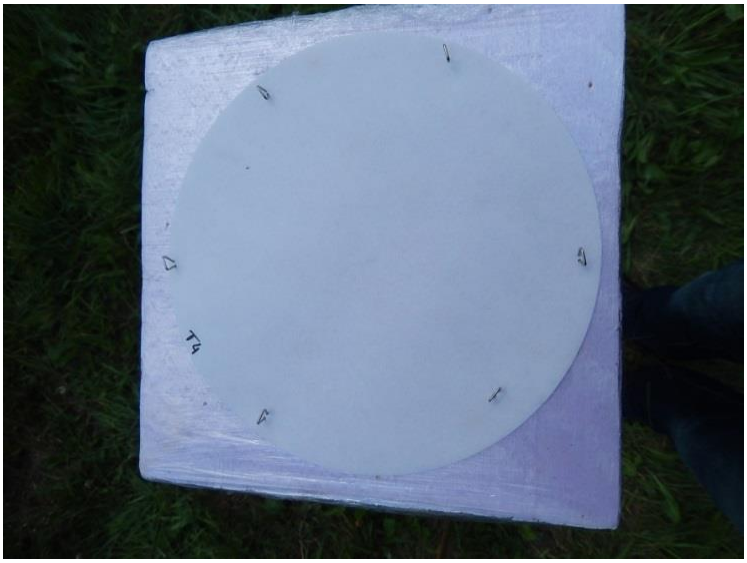

Fig S7. Spore trap based on 10 mm Petri dishes coated with a mix of Vaseline® and Paraffin wax®

Fig. S8. Inoculation with the mock community of a Whatman® paper filter based trap. Inoculations were performed under a security hood.

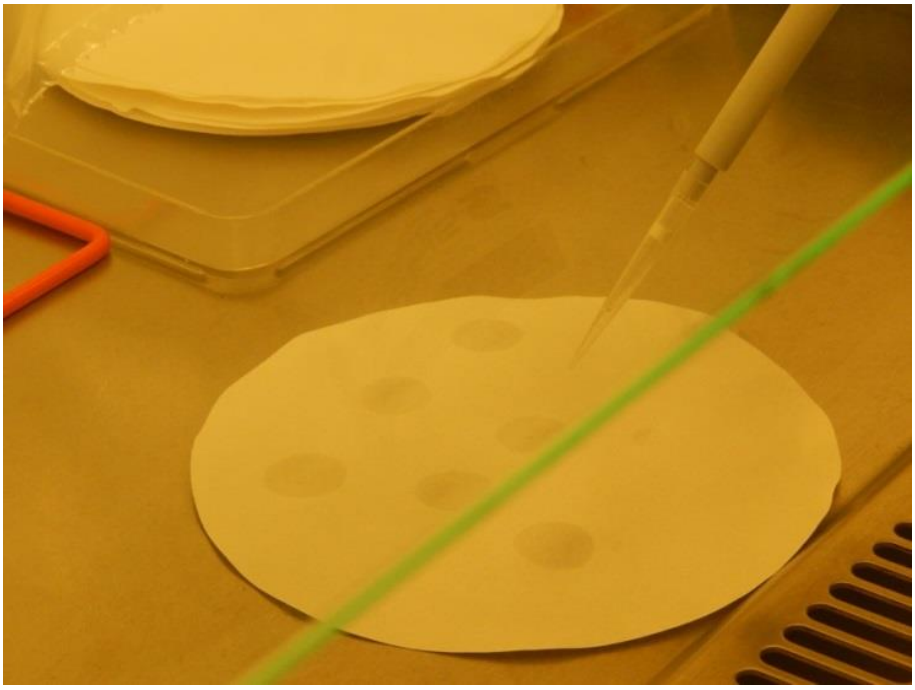

Fig. S9. Twenty different protocols combining the type of trap, the spore recovery protocol and the DNA extraction kit were exposed for two weeks in northeastern France. Three replicates of each protocol were exposed.