

Supplementary Materials

Table S1. Number of collected individuals (N Indiv) of different arthropod orders and suborders per sampling point (A, B, C) at seven kettle holes. Sampling points with zero collected arthropods are not shown (1192A and B, 163A and B, 172B and C).

| Sampling point | Order | Suborder | Common name | N Indiv |
|----------------|------------------|---------------|-------------|---------|
| 163C | Isopoda | Oniscidea | Woodlice | 2 |
| 166A | Coleoptera | multiple | Beetles | 5 |
| | Isopoda | Oniscidea | Woodlice | 1 |
| 166B | Coleoptera | multiple | Beetles | 4 |
| | Hemiptera | Heteroptera | Bugs | 1 |
| 166C | Coleoptera | multiple | Beetles | 4 |
| 172A | Isopoda | Oniscidea | Woodlice | 1 |
| | Julida | Julidae | Millipedes | 2 |
| 807A | Coleoptera | multiple | Beetles | 5 |
| | Julida | Julidae | Millipedes | 2 |
| 807B | Coleoptera | multiple | Beetles | 5 |
| 807C | Coleoptera | multiple | Beetles | 4 |
| | Julida | Julidae | Millipedes | 2 |
| 808A | Coleoptera | multiple | Beetles | 4 |
| | Dermaptera | Neodermaptera | Earwigs | 1 |
| | Entomobryomorpha | unknown | Springtails | 2 |
| | Isopoda | Oniscidea | Woodlice | 3 |
| 808B | Coleoptera | multiple | Beetles | 7 |
| | Julida | Julidae | Millipedes | 1 |
| 808C | Coleoptera | multiple | Beetles | 6 |
| 1172A | Coleoptera | multiple | Beetles | 1 |
| | Isopoda | Oniscidea | Woodlice | 2 |
| 1172B | Coleoptera | multiple | Beetles | 3 |
| 1172C | Coleoptera | multiple | Beetles | 5 |
| 1192C | Coleoptera | multiple | Beetles | 1 |

Table S2. Vegetation survey of seven kettle hole margins of 21 plots (each 1 m x 1 m). The mean vegetation height in cm (Mean veg. height in cm), total vegetation cover in % (Total veg. cover %), the share of dead plant biomass on total biomass in % (Dead plant %), and the relative cover in % of gramineous weeds (Cover grasses %), were visually estimated following the Braun-Blanquet approach [1].

| Kettle hole ID Sam- pling point | Mean veg. height (cm) | Total veg. cover (%) | Dead plant (%) | Cover grasses (%) |
|---------------------------------------|--------------------------|-------------------------|-------------------|----------------------|
| 163A | 100 | 100 | 20 | 50 |
| 163B | 50 | 80 | 10 | 20 |
| 163C | 90 | 80 | 30 | 110 |
| 166A | 120 | 70 | 10 | 20 |
| 166B | 50 | 100 | 10 | 30 |
| 166C | 50 | 50 | 10 | 30 |
| 172A | 50 | 40 | 50 | 90 |
| 172B | 30 | 100 | 60 | 40 |
| 172C | 50 | 90 | 10 | 60 |
| 807A | 40 | 80 | 10 | 80 |
| 807B | 40 | 90 | 20 | 80 |
| 807C | 40 | 80 | 20 | 20 |
| 808A | 40 | 90 | 70 | 40 |
| 808B | 30 | 70 | 70 | 50 |
| 808C | 40 | 80 | 70 | 70 |
| 1172A | 20 | 90 | 20 | 20 |
| 1172B | 50 | 40 | 20 | 20 |
| 1172C | 30 | 60 | 50 | 50 |
| 1192A | 20 | 90 | 20 | 20 |
| 1192B | 50 | 100 | 70 | 40 |
| 1192C | 50 | 90 | 60 | 90 |

Table S3. Untransformed (explained under 2.4 Statistical analysis) descriptive data of the quantified total fungal (Total fungi) and *Fusarium* load (*Fusarium*) in CFU Indiv⁻¹ of 74 collected arthropods.

| | Total fungi | <i>Fusarium</i> |
|---------------------------------------|-------------|-----------------|
| Min. | 0.00 | 0.00 |
| 1st Qu. | 17.25 | 0.00 |
| Median | 56.13 | 1.00 |
| Mean | 313.84 | 6.00 |
| 3rd Qu. | 149.50 | 6.00 |
| Max. | 8125.00 | 64.00 |
| Total Occurrence Fre- quency in %* | 95.95 | 55.40 |

* Frequency in percentage of the arthropods on which body surface fungal or *Fusarium* propagules were detected.

Table S4. Number of colony forming units (CFU) of *Fusarium* species detected on the body surface of 74 collected arthropods per individual (Indiv⁻¹), and in dry mass (DM) of 21 litter (mg⁻¹ DM) and 21 soil samples (mg⁻¹ DM), summed up for all samples per substrate type. Abbreviations are used in Figure 5 and 6 and Tables S5-S7.

| <i>Fusarium</i> species | Ab- bre- via- tion | Arthropods CFU Indiv ⁻¹ | Litter CFU mg ⁻¹ DM | Soil CFU mg ⁻¹ DM |
|-----------------------------------------------------------------------------|-----------------------------|---------------------------------------|-----------------------------------------|------------------------------------|
| <i>Fusarium avenaceum</i> (Fries) Saccardo | Ave | 19.00 | 90.00 | 0.00 |
| <i>Fusarium crookwellense</i> Burgess, Nelson & Toussoun | Cer | 2.00 | 0.00 | 10.00 |
| <i>Fusarium culmorum</i> (W.G. Smith) Saccardo | Cul | 146.25 | 740.00 | 37.00 |
| <i>Fusarium dimerum</i> Penzig | Dim | 26.00 | 350.00 | 3.00 |
| <i>Fusarium equiseti</i> (Corda) Saccardo | Equ | 13.00 | 0.00 | 0.00 |
| <i>Fusarium graminearum</i> Schwabe | Gra | 4.00 | 0.00 | 1.00 |
| <i>Fusarium merismoides</i> Corda | Mer | 5.00 | 80.00 | 8.00 |
| <i>Fusarium oxysporum</i> Schlechtendahl emend. Snyder & Hansen | Oxy | 8.50 | 0.00 | 2.00 |
| <i>Fusarium poae</i> (Peck) Wollenweber | Poa | 1.00 | 10.00 | 1.00 |
| <i>Fusarium proliferatum</i> (Matsushima) Nirenberg | Pro | 0.00 | 50.00 | 1.00 |
| <i>Fusarium sambucinum</i> Fückel | Sam | 46.75 | 240.00 | 18.00 |
| <i>Fusarium scirpi</i> Lambotte & Fautrey | Sci | 7.00 | 40.00 | 0.00 |
| <i>Fusarium semitectum</i> Berkeley & Ravenel | Sem | 7.00 | 50.00 | 2.00 |
| <i>Fusarium solani</i> (Martius) Appel & Wollenweber emend. Snyder & Hansen | Sol | 2.00 | 40.00 | 14.00 |
| <i>Fusarium sporotrichioides</i> Sherbakoff | Spo | 94.00 | 400.00 | 8.00 |
| <i>Fusarium tricinctum</i> (Corda) Saccardo | Tri | 0.00 | 50.00 | 0.00 |
| <i>Fusarium verticillioides</i> (Saccardo) Nirenberg | Ver | 3.00 | 0.00 | 1.00 |
| <i>Fusarium</i> spp. | spp | 54.75 | 250.00 | 42.00 |

Table S5. Dominance structure as number of colony forming units of *Fusarium* species detected on the body surface of collected arthropods per individual, averaged per sampling point. Abbreviations of the *Fusarium* species are explained in Table S4.

| Kettle hole ID | | | | | | | | | | | | | | | | |
|----------------|------|------|-------|------|------|------|------|------|------|------|------|------|------|-------|------|------|
| Sampling point | Ave | Cer | Cul | Dim | Equ | Gra | Mer | Oxy | Poa | Sam | Sci | Sem | Sol | Spo | Ver | spp. |
| 163C | 1.50 | 0.50 | 26.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.25 | 0.00 | 1.00 | 0.00 | 4.50 | 0.50 | 1.00 |
| 166A | 1.00 | 0.00 | 0.33 | 0.17 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 1.67 | 0.17 | 0.33 | 0.00 | 1.00 | 0.17 | 2.33 |
| 166B | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 166C | 0.00 | 0.00 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.25 |
| 172A | 0.00 | 0.00 | 0.00 | 0.67 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.00 | 0.33 | 0.33 | 0.00 | 1.33 |
| 807A | 0.00 | 0.00 | 1.14 | 1.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.29 | 0.00 | 0.00 |
| 807B | 0.00 | 0.00 | 9.00 | 0.40 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 |
| 807C | 0.00 | 0.00 | 1.00 | 0.17 | 0.33 | 0.17 | 0.00 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.67 |
| 808A | 0.00 | 0.00 | 0.20 | 0.30 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.95 | 0.00 | 0.20 | 0.00 | 1.20 | 0.10 | 0.00 |
| 808B | 0.00 | 0.00 | 0.50 | 0.25 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.13 |
| 808C | 0.17 | 0.00 | 0.00 | 0.33 | 0.00 | 0.00 | 0.00 | 0.25 | 0.00 | 0.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1172A | 2.33 | 0.00 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 1.67 | 0.00 | 0.00 | 0.00 | 15.67 | 0.00 | 2.00 |
| 1172B | 0.67 | 0.33 | 7.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.83 | 1.33 | 0.00 | 0.00 | 1.33 | 0.00 | 2.33 |
| 1172C | 0.00 | 0.00 | 0.20 | 0.20 | 1.00 | 0.00 | 0.20 | 0.20 | 0.20 | 1.55 | 0.40 | 0.20 | 0.00 | 1.20 | 0.00 | 1.33 |
| 1192C | 0.00 | 0.00 | 3.00 | 1.00 | 0.00 | 0.00 | 3.00 | 2.00 | 0.00 | 3.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |

Table S6. Dominance structure as number of colony forming units of *Fusarium* species detected in 1.0 mg dry mass of litter samples. Abbreviations of the *Fusarium* species are explained in Table S4.

| Kettle hole ID | | | | | | | | | | | | | | |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Sampling point | Ave | Cul | Dim | Gra | Mer | Poa | Pro | Sam | Sci | Sem | Sol | Spo | Tri | spp. |
| 163A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 20 | 0 |
| 163B | 30 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| 163C | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 10 | 0 | 0 | 0 | 0 |
| 166A | 0 | 0 | 270 | 0 | 0 | 0 | 0 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 166B | 0 | 0 | 10 | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 166C | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 |
| 172A | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 10 | 60 | 0 | 0 |

| | | | | | | | | | | | | | | |
|-------|----|-----|---|---|----|---|----|-----|----|----|----|----|----|-----|
| 172B | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 100 |
| 172C | 0 | 20 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 |
| 807A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 |
| 807B | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 0 |
| 807C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 |
| 808A | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 808B | 0 | 10 | 0 | 0 | 0 | 0 | 30 | 10 | 10 | 0 | 0 | 20 | 0 | 0 |
| 808C | 0 | 560 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 10 | 0 | 0 | 0 |
| 1172A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 10 | 0 | 0 |
| 1172B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 |
| 1172C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| 1192A | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 70 | 10 | 20 |
| 1192B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1192C | 20 | 0 | 0 | 0 | 20 | 0 | 0 | 50 | 0 | 40 | 10 | 40 | 0 | 130 |

Table S7. Dominance structure as number of colony forming units of *Fusarium* species detected in 1.0 mg dry mass of soil samples. Abbreviations of the *Fusarium* species are explained in Table S4.

| Kettle hole ID Sampling point | Cer | Cul | Dim | Gra | Mer | Oxy | Poa | Pro | Sam | Sem | Sol | Spo | Ver | spp. |
|----------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 163A | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 163B | 0 | 3 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 3 | 3 | 1 | 2 |
| 163C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 166A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 166B | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 3 |
| 166C | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2 |
| 172A | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 172B | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 172C | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 807A | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 807B | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 807C | 3 | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |

| | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 808A | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 2 | 0 | 0 |
| 808B | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 808C | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 1172A | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 |
| 1172B | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 9 |
| 1172C | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 1192A | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1192B | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 1192C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

1. Braun-Blanquet, J. Pflanzensoziologie: Grundzüge der Vegetationskunde, 2nd ed. Springer- Verlag: Wien, Austria, 1951.