**Table S5**. Linear and quadratic coefficients of the fixed factors (temperature, T, mean relative humidity, RH, rainfall, P, spider, beetle, and earwig captures) estimated by the GLMs adjusted to ant activity density and their corresponding statistics (*t*- and *p*-values) in the different treatments (bare soil-BS, df = 177, mulch of straw-M, df = 171, and *F. arundinacea* cover-FA, df = 171) (AIC = 293.44, 177.49, and 202.92, respectively). Null deviance values are 218.92, 326.93 and 304.00 for BS, M and FA, respectively, with 59 df in all cases. Those of the residual deviance are 7.75, 48.48 and 71.65, respectively, with 51, 51 and 50 df, respectively. Because the models were refined by removing non-significant effects, these are not part of the final model and are reported as nr in the table. No earwigs were found in BS.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Linear and quadratic coefficients ± SE | *t*-value | *p*-value |
|  | BS | M | FA | BS | M | FA | BS | M | FA |
| T | 1.31 ± 0.32 | 1.19 ± 0.29 | 1.08 ± 0.38 | 4.08 | 4.04 | 2.85 | <0.001 | <0.001 | 0.006 |
| T2 | 1.41 ± 0.41 | 1.08 ± 0.25 | 1.17 ± 0.26 | 3.45 | 4.26 | 4.54 | 0.001 | <0.001 | <0.001 |
| RH | nr | 1.44 ± 0.33 | 2.37 ± 0.38 | --- | 4.34 | 6.17 | --- | <0.001 | <0.001 |
| RH2 | nr | 0.53 ± 0.13 | nr | --- | 3.95 | --- | --- | <0.001 | --- |
| P | nr | -0.09 ± 0.02 | -0.11 ± 0.02 | --- | -5.34 | -4.99 | --- | <0.001 | <0.001 |
| P2 | nr | < 0.01 | < 0.01 | --- | 5.67 | 5.83 | --- | <0.001 | <0.001 |
| Spiders | nr | 0.19 ± 0.04 | 0.26 ± 0.10 | --- | 4.60 | 2.69 | --- | <0.001 | 0.009 |
| Beetles | nr | nr | -0.45 ± 0.06 | --- | --- | -7.40 | --- | --- | <0.001 |
| Earwigs | --- | 0.73 ± 0.12 | 1.39 ± 0.44 | --- | 6.25 | 3.13 | --- | <0.001 | 0.003 |