**Supporting information**

Table S1: Results of sequential tests with potential confounding environmental variables introduced first in the models.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Response variables |  *T. figulus* abundance |   |  | Number of spiders pro cell |  |   | Parasitism |   |
|  | df | *F* | *p* |   | df | *F* | *p* |   | df | *F* | *p* |
| Temperature | 1, 25 | 1.87 | 0.183 |  | 1, 20 | 0.39 | 0.539 |  | 1, 21 | 0.06 | 0.814 |
| Isolation | 2, 25 | 10.64 | < 0.001 |  | 2, 20 | 5.47 | 0.013 |  | 2, 21 | 0.31 | 0.734 |
| Woody habitat | 1, 25 | 8.71 | 0.007 |  | 1, 20 | 0.54 | 0.473 |  | 1, 21 | 0.12 | 0.728 |
| Humidity | 1, 25 | 0.00 | 0.982 |  | 1, 20 | 0.08 | 0.777 |  | 1, 21 | 1.94 | 0.178 |
| Isolation | 2, 25 | 10.26 | 0.001 |  | 2, 20 | 5.61 | 0.012 |  | 2, 21 | 0.07 | 0.937 |
| Woody habitat | 1, 25 | 5.23 | 0.031 |  | 1, 20 | 0.43 | 0.518 |  | 1, 21 | 0.39 | 0.541 |
| Altitude | 1, 25 | 0.00 | 0.982 |  | 1, 20 | 0.10 | 0.756 |  | 1, 21 | 0.15 | 0.704 |
| Isolation | 2, 25 | 10.26 | 0.001 |  | 2, 20 | 5.67 | 0.011 |  | 2, 21 | 0.34 | 0.716 |
| Woody habitat | 1, 25 | 5.23 | 0.031 |  | 1, 20 | 0.55 | 0.466 |  | 1, 21 | 0.06 | 0.810 |
| Wind | 1, 25 | 3.05 | 0.093 |  | 1, 20 | 0.33 | 0.571 |  | 1, 21 | 0.77 | 0.391 |
| Isolation | 2, 25 | 9.03 | 0.001 |  | 2, 20 | 5.50 | 0.013 |  | 2, 21 | 0.60 | 0.557 |
| Woody habitat | 1, 25 | 4.97 | 0.035 |  | 1, 20 | 0.54 | 0.470 |  | 1, 21 | 0.00 | 0.973 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Response variables |   | Male weight |   |  | Female weight |   |  |  | Offspring sex-ratio |  |  |
|  | df | *F* | *p* |  | df | *F* | *p* |  | df | *F* | *p* |  |
| Temperature | 1, 20 | 1.01 | 0.327 |  | 1, 20 | 0.07 | 0.793 |  | 1, 145 | 9.00 | < 0.01 |  |
| Isolation | 2, 20 | 3.50 | 0.050 |  | 2, 20 | 0.39 | 0.685 |  | 2, 145 | 1.07 | 0.35 |  |
| Woody habitat | 1, 20 | 1.27 | 0.273 |  | 1, 20 | 0.01 | 0.940 |  | 1, 145 | 0.16 | 0.69 |  |
| Humidity | 1, 20 | 3.50 | 0.074 |  | 1, 20 | 2.48 | 0.132 |  | 1, 145 | 2.74 | 0.1 |  |
| Isolation | 2, 20 | 3.98 | 0.035 |  | 2, 20 | 0.31 | 0.737 |  | 2, 145 | 0.60 | 0.55 |  |
| Woody habitat | 1, 20 | 0.87 | 0.361 |  | 1, 20 | 0.04 | 0.847 |  | 1, 145 | 0.39 | 0.53 |  |
| Altitude | 1, 20 | 0.00 | 0.965 |  | 1, 20 | 0.35 | 0.560 |  | 1, 145 | 4.84 | 0.03 |  |
| Isolation | 2, 20 | 3.89 | 0.038 |  | 2, 20 | 0.36 | 0.701 |  | 2, 145 | 0.04 | 0.96 |  |
| Woody habitat | 1, 20 | 1.67 | 0.202 |  | 1, 20 | 0.03 | 0.871 |  | 1, 145 | 0.02 | 0.89 |  |
| Wind | 1, 20 | 0.58 | 0.455 |  | 1, 20 | 0.10 | 0.760 |  | 1, 145 | 0.10 | 0.75 |  |
| Isolation | 2, 20 | 4.18 | 0.030 |  | 2, 20 | 0.48 | 0.624 |  | 2, 145 | 0.19 | 0.83 |  |
| Woody habitat | 1, 20 | 2.65 | 0.119 |  | 1, 20 | 0.06 | 0.815 |  | 1, 145 | 0.93 | 0.33 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |