Thesis figures

Table 1: Negative binomial GLMM (lme4, glmer.nb) were fit to assess microsite and blooming effects on pollination floral visitation and foraging bout frequency. Wald’s test (Type 2) was used. Non-significant interactions were dropped from the model.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total flower visits | | | Foraging bouts | | |
|  | **Coeff** | **χ2** | **p** | **Coeff** | **χ2** | **p** |
| Microsite (shrub) | -0.3493 | 4.4979 | **0.03396** | -0.3258 | 5.1183 | **0.0237** |
| Blooming (bloom) | -1.2473 | 61.52 | **<0.0001** | -1.2513 | 76.883 | **<0.0001** |
| Flowers.pot | 0.0694 | 6.9013 | **0.0086** | 0.0474 | 4.1109 | **0.0426** |
| Microsite \* Blooming | NA | NA | NA | NA | NA | NA |

Table 2: Non-significant covariates. Models containing covariates were not significantly different from null models.

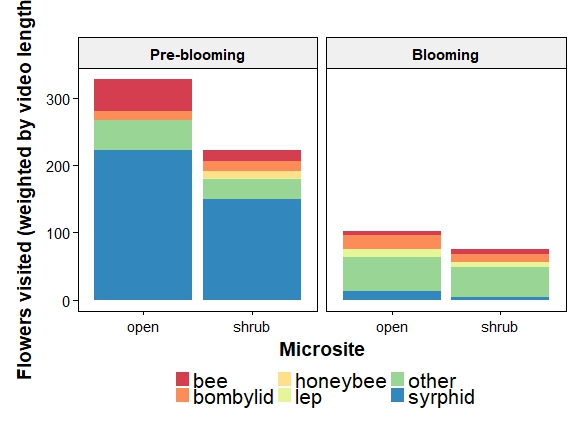


Figure 1:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total flower visits | | | Plant visits | | |
|  | **Coeff** | **χ2** | **p** | **Coeff** | **χ2** | **p** |
| Microsite (shrub) | -0.337480 | 4.1903 | 0.040655 | -0.311383 | 4.6322 | **0.03137** |
| Blooming (bloom) | -1.729417 | 15.4730 | < 0.0001 | -1.683054 | 12.2157 | **0.0004739** |
| RTU | NA | 197.0575 | <0.0001 | NA | 217.5031 | **<0.00001** |
| Flowers.pot | 0.064325 | 7.8743 | 0.005014 | 0.042763 | 4.0741 | **0.4354** |
| RTU\*blooming | NA | 70.0222 | <0.0001 | NA | 70.35 | <0.0001 |

Flower visits post-hoc test.

|  |
| --- |
| Solitary bee |
| contrast estimate SE df t.ratio p.value |
| Flower: pre - bloom 1.72941690 4.418547e-01 1276 3.914 0.0001 |
| Plant : pre - bloom 1.6830539 4.839527e-01 1276 3.478 0.0005 |
| Bombyliidae |
| contrast estimate SE df t.ratio p.value |
| Flower: pre - bloom 0.04602546 3.886082e-01 1276 0.118 0.9057 |
| Plant: pre - bloom 0.3956475 3.556753e-01 1276 1.112 0.2662 |
| Honeybee |
| contrast estimate SE df t.ratio p.value |
| Flower: pre - bloom 24.99689016 7.783803e+04 1276 0.000 0.9997 |
| Plant: pre - bloom 24.3349238 6.530236e+04 1276 0.000 0.9997 |
| Lepidoptera |
| contrast estimate SE df t.ratio p.value |
| Flower: pre - bloom -2.40174164 1.289996e+00 1276 -1.862 0.0629 |
| pre - bloom -2.0770886 1.062522e+00 1276 -1.955 0.0508 |
| Other |
| contrast estimate SE df t.ratio p.value |
| Flower: pre - bloom -0.01969237 2.403112e-01 1276 -0.082 0.9347 |
| pre - bloom 0.1340573 2.064640e-01 1276 0.649 0.5163 |
| Syrphid |
| contrast estimate SE df t.ratio p.value |
| Flower: pre - bloom 3.05632296 3.468089e-01 1276 8.813 <.0001 |
| Plant: pre - bloom 3.1228613 3.404428e-01 1276 9.173 <.0001 |

Full model for flower visits, output from Wald’s Type 3 test.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Flower visits | | | Foraging bouts | | |
|  | Chisq | Df | P |  |  |  |
| Flowering | 16.3114 | 1 | <0.0001 | 11.2812 | 1 | 0.0007829 |
| Rtu | 121.6832 | 5 | <0.0001 | 131.340 | 5 | < 2.2e-16 |
| Treatment | 6.7008 | 1 | 0.009637 | 3.6569 | 1 | 0.0558390 |
| Flowers.pot | 9.4194 | 1 | 0.002147 | 4.5640 | 1 | 0.0326507 |
| Flowering:rtu | 56.9111 | 5 | <0.0001 | 53.0033 | 5 | 3.358e-10 |
| Flowering:treatment | 3.6394 | 1 | 0.056426 | 2.3436 | 1 | 0.1258002 |
| Rtu:treatment | 5.4996 | 5 | 0.357984 | 3.8289 | 5 | 0.5210663 |
| Flowering:rtu:treatment | 7.5190 | 5 | 0.184812 | 4.1995 | 5 | 0.5210663 |

Mean plant visits per hour. This is just the mean number of potential foraging bouts. ± the standard deviation.

|  |  |  |
| --- | --- | --- |
|  | Open | Shrub |
| Pre-blooming | 4.2955249 ± 4.621614 | 2.9976793 ± 3.134733 |
| Blooming | 1.2526164 ± 1.376179 | 0.9458532 ± 1.271302 |

Mean number of flowers visited per hour. ± standard deviation.

|  |  |  |
| --- | --- | --- |
|  | Open | Shrub |
| Pre-blooming | 5.758404 ± 7.547992 | 3.776575 ± 4.742340 |
| Blooming | 1.722185 ± 2.218946 | 1.268643 ± 2.047149 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Percent cover | | Annual Richness | | Annual bloom density | |
|  | **χ**2 value | |  | |  | |
|  |  | p – value | **χ**2 value | p – value | **χ**2 value | p – value |
| Microsite | **165.399** | **<0.0001** | 0.7071 | 0.40 | 0.6009 | 0.438 |
| Blooming | **34.180** | **<0.0001** | 2.7010 | 0.10 | **13.3646** | **0.0003** |
| Microsite \* blooming | **22.806** | **<0.0001** | NA | NA | NA | NA |

Table 2: GLMM results for pan trap abundances. Non-significant interactions were removed models.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Insect abundance (Melyridae: Dastyine excluded) | | Insect abundance (Melyridae: Dastyine included) | | Insect species richness | |
|  |  | |  | |  | |
|  | **χ**2 value | p – value | **χ**2 value | p – value | **χ**2 value | p – value |
| Microsite | 13.4645 | **0.0008** | 1.7201 | 0.1897 |  |  |
| Blooming | 11.3074 | **0.0002** | 33.6643 | **<0.0001** |  |  |
| Microsite \* Blooming | 3.8427 | **0.04996** | NA | NA |  |  |