

Figure S1. Example of dispersal bridge used in this study's experiment (photograph: Stefano Masier). Two 2 × 2 cm bean leaf squares are connected by a parafilm bridge (Note: the bridge on this demonstration photograph is longer than the bridges used in this study). The arrow points to a single *Tetranychus urticae* female on the bridge.

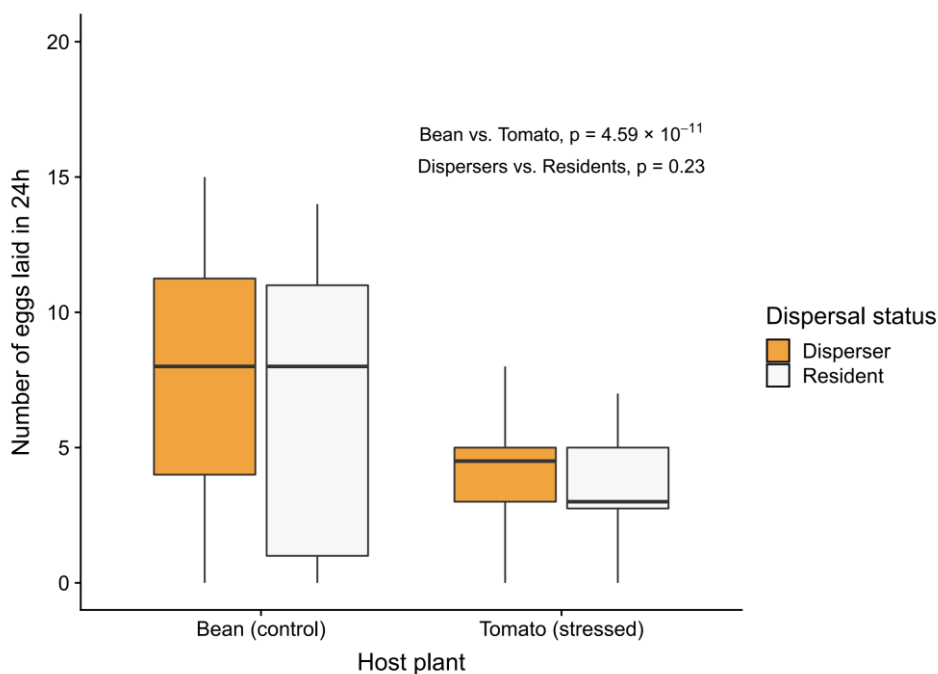


Figure S2. Effect of dispersal status and host plant on fecundity, measured as the number of eggs laid in the first 24h of Experiment 1. Dispersal effect: $X^2 = 1.47$, $df = 1$, $p = 0.23$; Host plant effect: $X^2 = 43.34$, $df = 1$, $p = 4.59 \times 10^{-11}$; Interaction effect: $X^2 = 0.00$, $df = 1$, $p = 0.95$ (quasi-Poisson GLM).

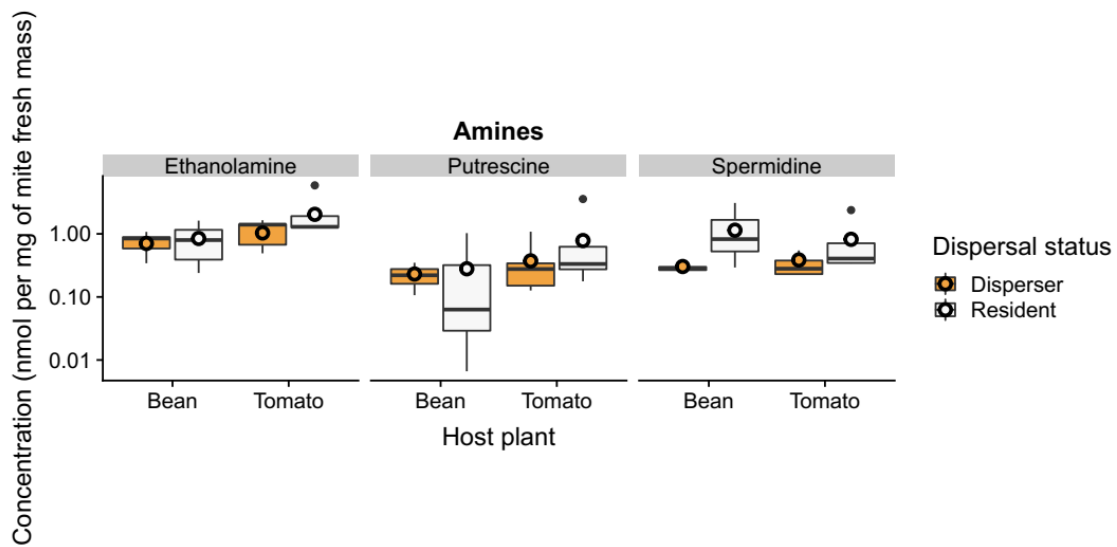


Figure S3. Observed amine concentrations in Experiment 2. Box and black dots: observed values, coloured dots: predicted means based on fixed and random effects of the model presented Table 2 of the main text. Predictions are based on relative concentrations (mean value = 1) and back-transformed to actual concentrations using observed means. Number of replicates = 5, 6, 5 and 4 for Dispersers on Bean, Residents on Bean, Dispersers on Tomato and Residents on Tomato, respectively. Each replicate was made of 50 adult female mites.

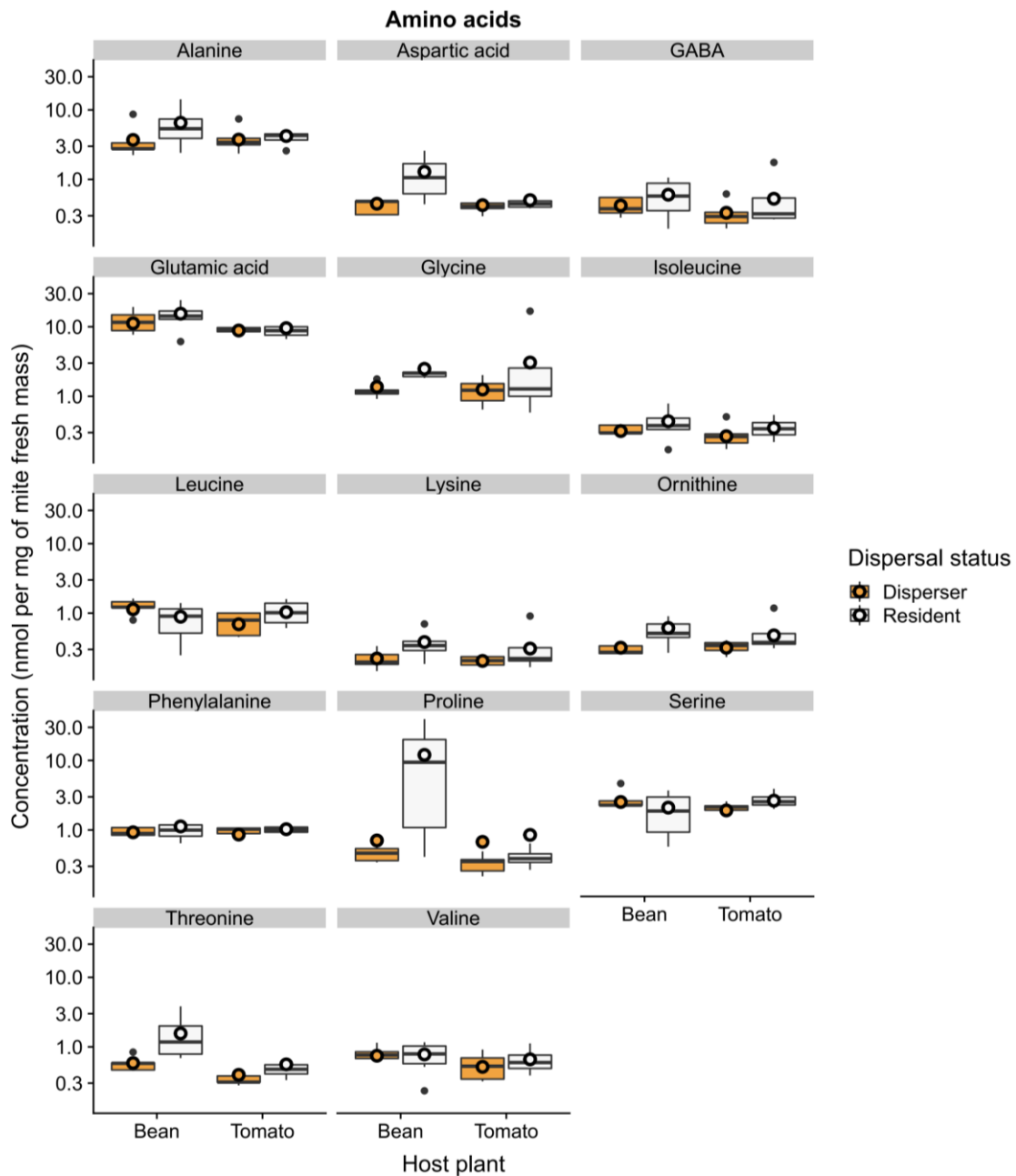


Figure S4. Observed amino acid concentrations in Experiment 2. Box and black dots: observed values, colored dots: predicted means based on fixed and random effects of the model presented Table 2 of the main text. Predictions are based on relative concentrations (mean value = 1) and back-transformed to actual concentrations using observed means. Number of replicates = 5, 6, 5 and 4 for Dispersers on Bean, Residents on Bean, Dispersers on Tomato and Residents on Tomato, respectively. Each replicate was made of 50 adult female mites.

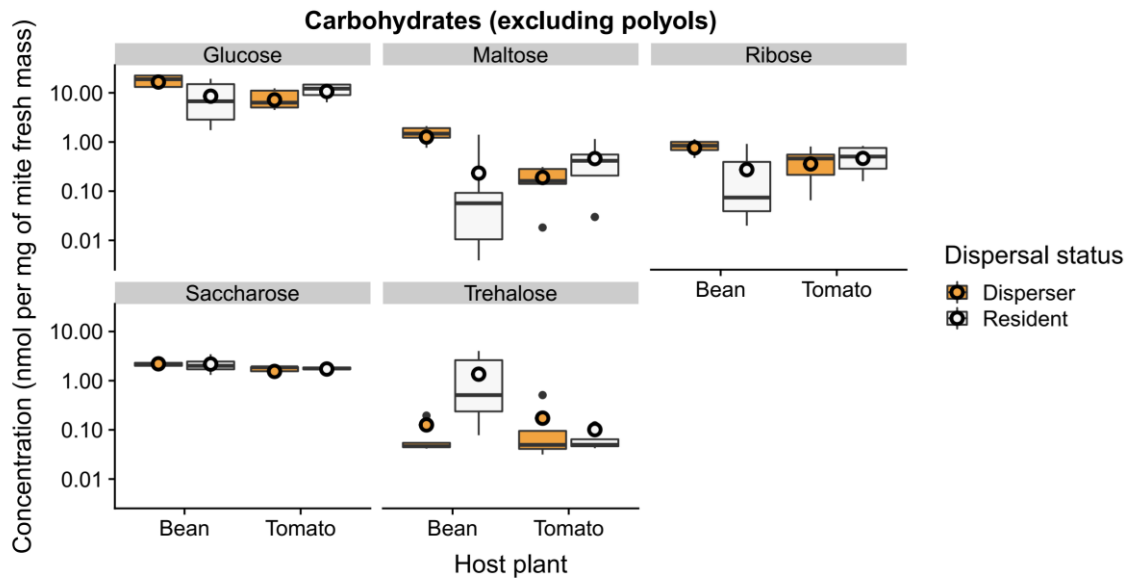


Figure S5. Observed carbohydrates concentrations in Experiment 2 (excluding polyols). Box and black dots: observed values, colored dots: predicted means based on fixed and random effects of the model presented Table 2 of the main text. Predictions are based on relative concentrations (mean value = 1) and back-transformed to actual concentrations using observed means. Number of replicates = 5, 6, 5 and 4 for Dispersers on Bean, Residents on Bean, Dispersers on Tomato and Residents on Tomato, respectively. Each replicate was made of 50 adult female mites.

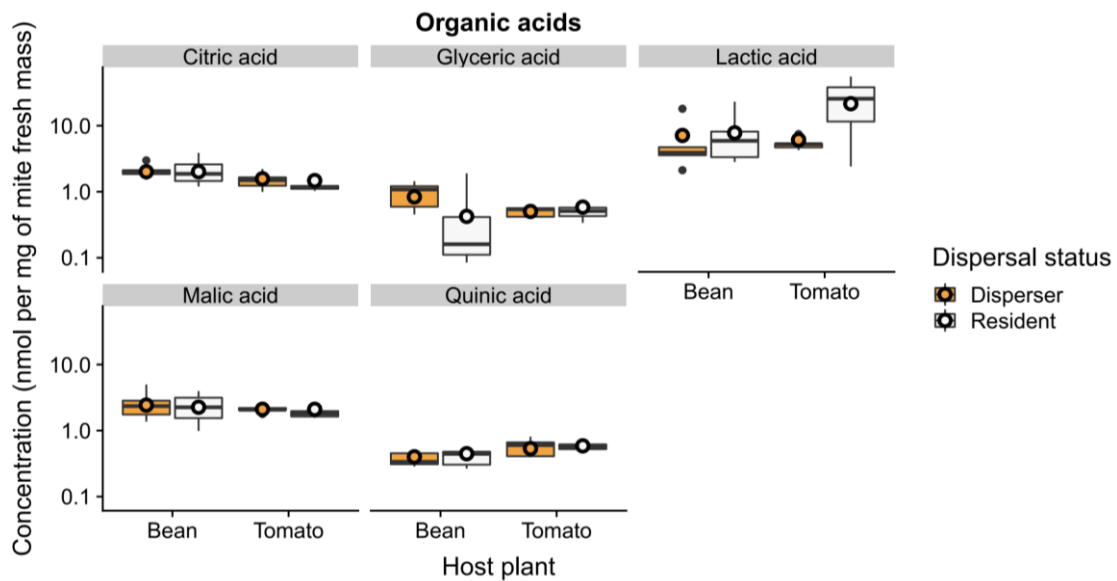


Figure S6. Observed organic acid concentrations in Experiment 2. Box and black dots: observed values, colored dots: predicted means based on fixed and random effects of the model presented Table 2 of the main text. Predictions are based on relative concentrations (mean value = 1) and back-transformed to actual concentrations using observed means. Number of replicates = 5, 6, 5 and 4 for Dispersers on Bean, Residents on Bean, Dispersers on Tomato and Residents on Tomato, respectively. Each replicate was made of 50 adult female mites.

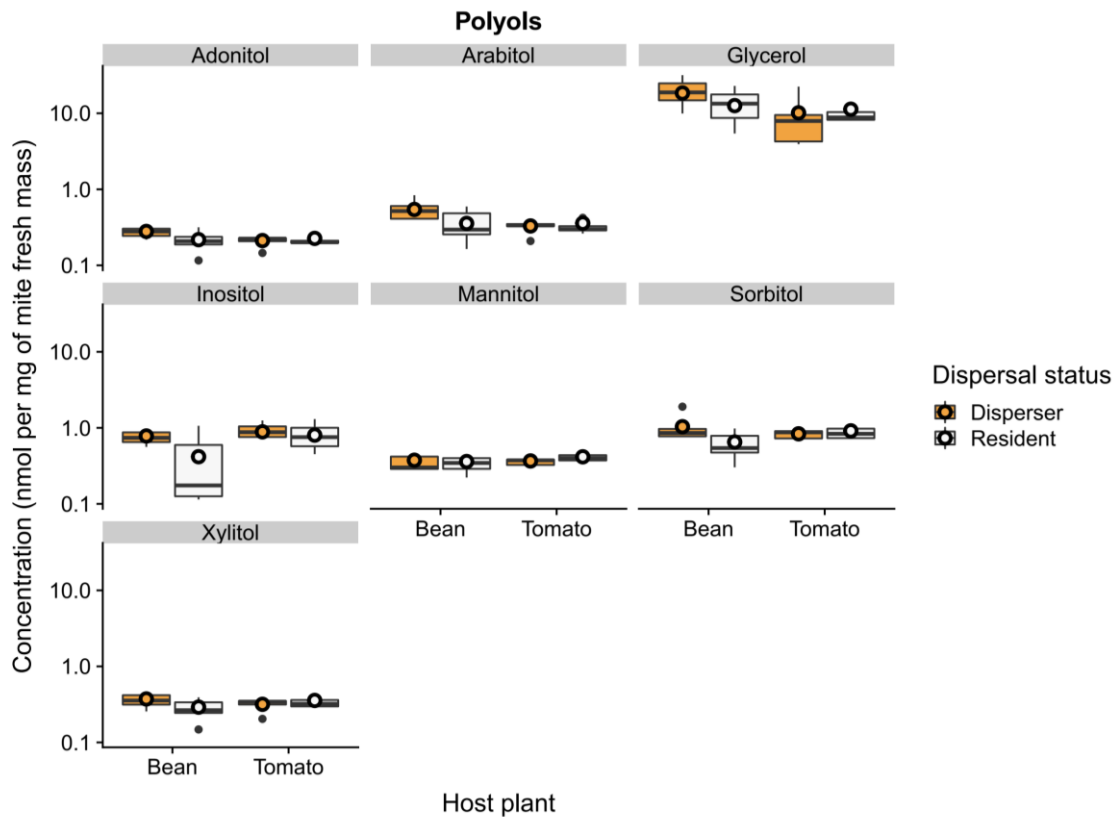


Figure S7. Observed polyol concentrations in Experiment 2. Box and black dots: observed values, colored dots: predicted means based on fixed and random effects of the model presented Table 2 of the main text. Predictions are based on relative concentrations (mean value = 1) and back-transformed to actual concentrations using observed means. Number of replicates = 5, 6, 5 and 4 for Dispersers on Bean, Residents on Bean, Dispersers on Tomato and Residents on Tomato, respectively. Each replicate was made of 50 adult female mites.

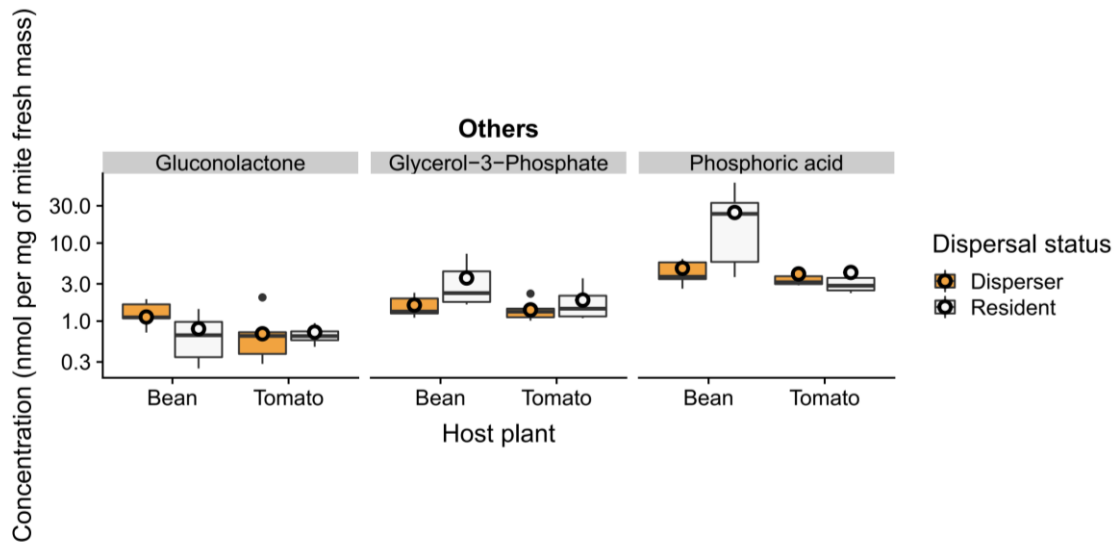


Figure S8. Observed concentrations in Experiment 2 of the three quantified molecules not belonging to any of the main categories shown in Supplementary Figures 3-7. Box and black dots: observed values, colored dots: predicted means based on fixed and random effects of the model presented Table 2 of the main text. Predictions are based on relative concentrations (mean value = 1) and back-transformed to actual concentrations using observed means. Number of replicates = 5, 6, 5 and 4 for Dispersers on Bean, Residents on Bean, Dispersers on Tomato and Residents on Tomato, respectively. Each replicate was made of 50 adult female mites.