

Appendix S3: Floral shape predicts bee–parasite transmission potential. Mario S. Pinilla-Gallego, Wee-Hao Ng, Victoria E. Amaral, and Rebecca E. Irwin. *Ecology*.

SUPPLEMENTARY FIGURES

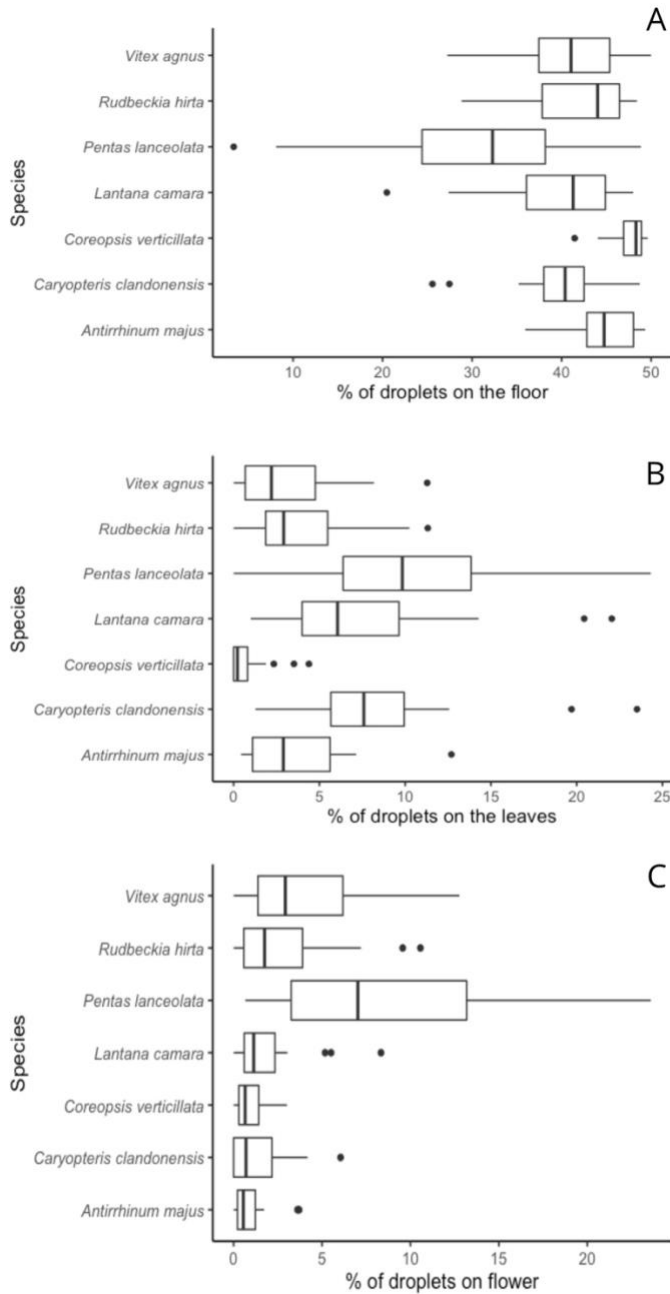


Figure S1. Experiment 1, Deposition: Species identity had a significant effect on the percentage of droplets per cage that ended up on (A) the floor of the cage, (B) leaves, and (C) flowers. Figures depict boxplots.

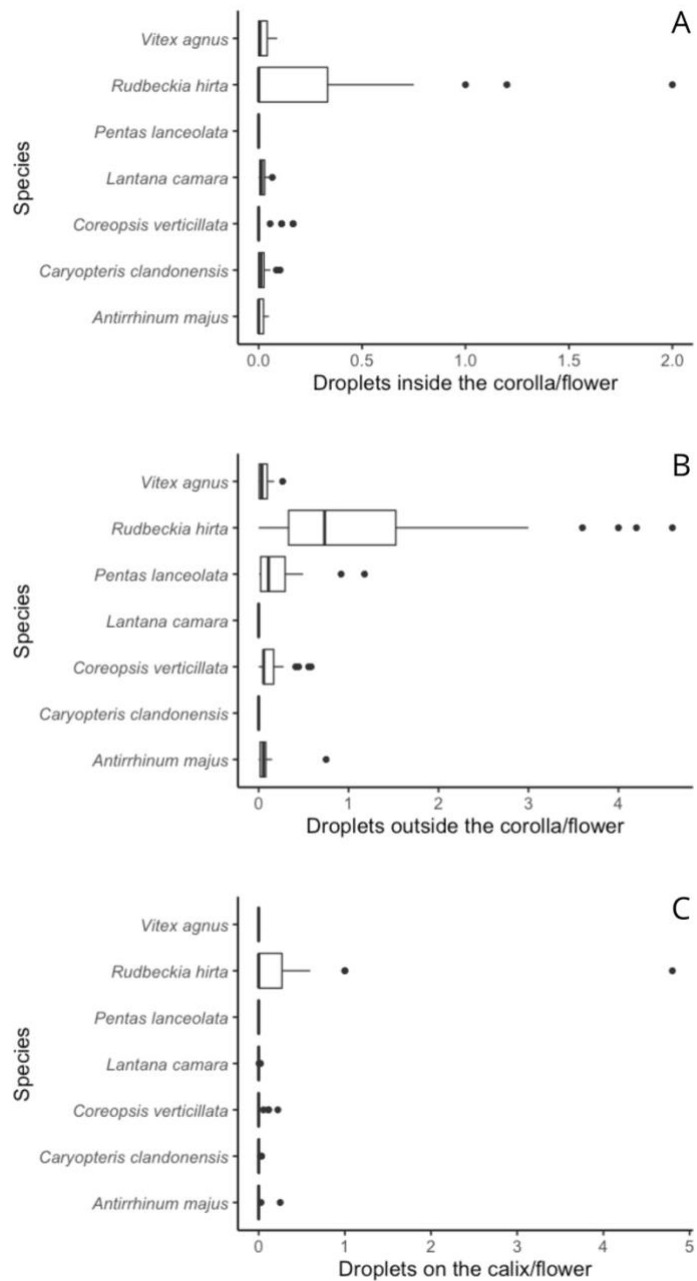


Figure S2. Experiment 1, Deposition: Species identity had a significant effect on the proportion of the total number of droplets per cage that ended up A) inside the corolla, B) outside the corolla and C) on the calix, to the number of flowers in the cage.

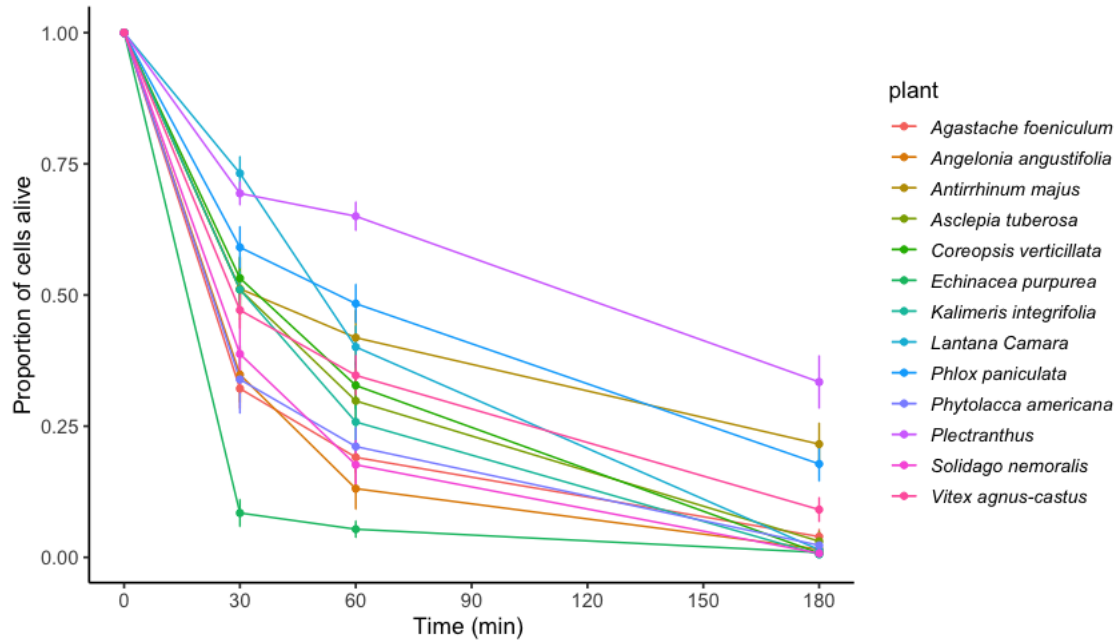


Figure S3. Experiment 2, Survival: Proportion of *C. bombi* cells alive per droplet on flowers after 30 min, 1 h and 3h. This figure combines survival data for both flower locations for the 11 plant species where two locations were tested (see Table 1).

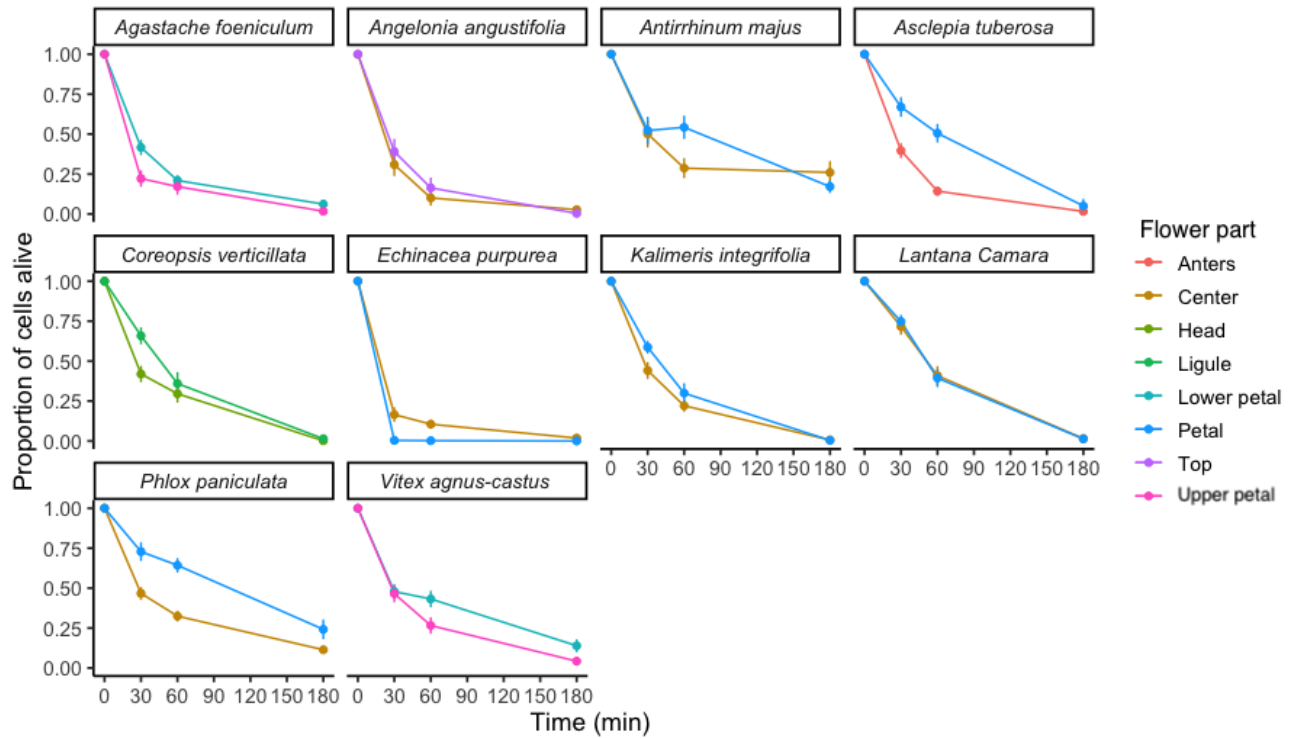


Figure S4. Experiment 2, Survival: Proportion of *C. bombi* cells alive per droplet on different floral parts of 10 plant species where two locations per flower were tested. *Plectranthus* sp. is not included due to high censoring for this species. We found significant differences between flower parts only for *E. purpurea*.

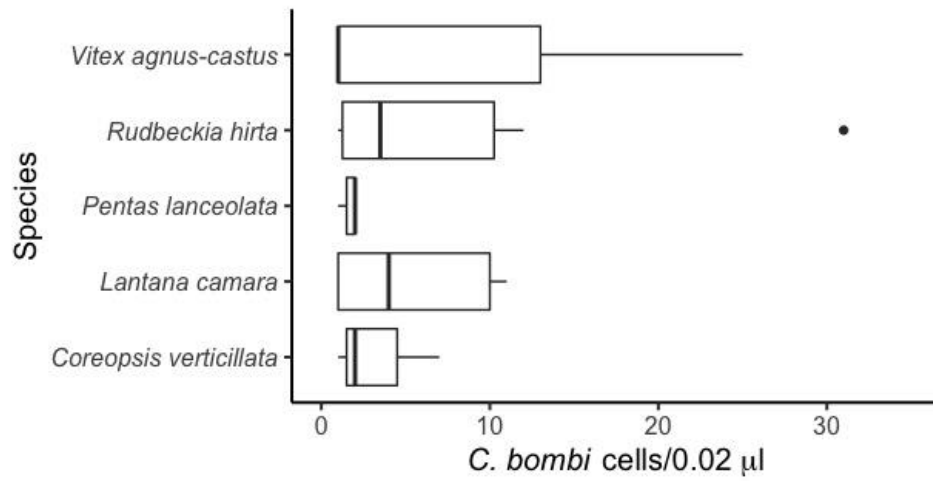


Figure S5. Experiment 3, Acquisition: Boxplot of the intensity of infection (cells/0.02 μ l) of bees that got infected during the acquisition trials. Species identity was not a significant predictor in the species-based model.

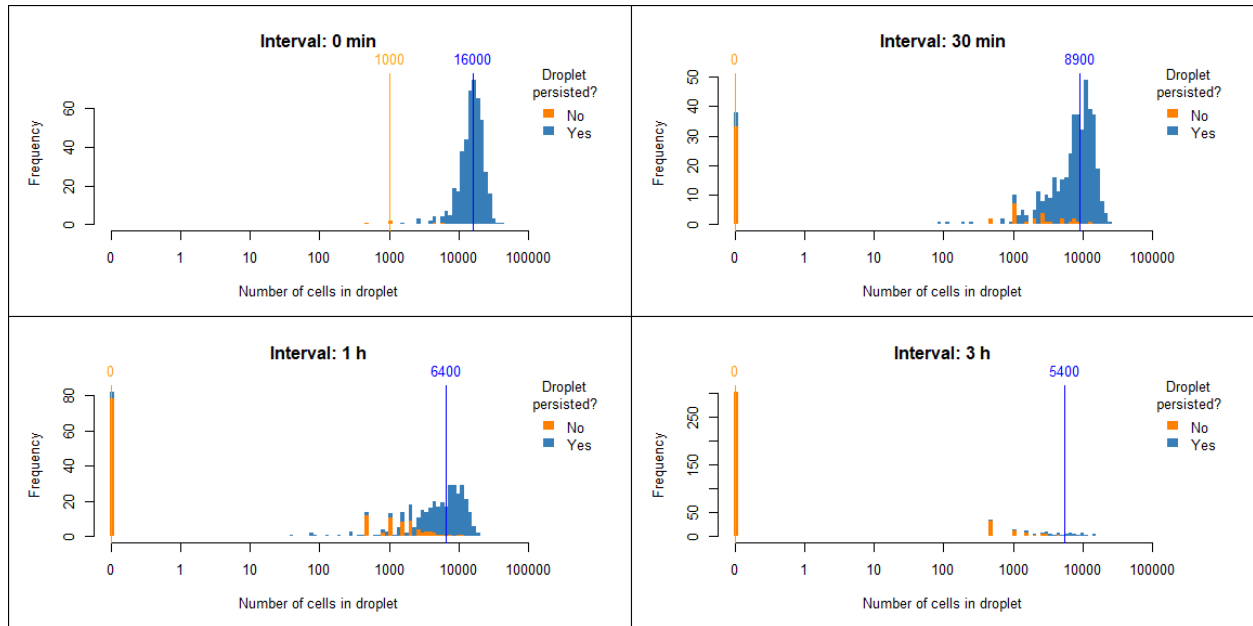


Figure S6. Stacked histograms for the log transformed number of cells in a droplet, when measured at four different time intervals. This figure combines all plant species and locations of droplets. All cell counts included a +0.1 offset before log transformation, so that 0 is mapped to a finite value. Blue corresponds to droplets that persisted at the time of measurement (i.e., the liquid matrix remained present), while orange corresponds to those that did not (e.g., due to evaporation; distilled water had to be added to facilitate cell recovery). Vertical lines represent the median number of cells, separately for droplets that did (blue line) and did not (orange line) persist. We found that droplets with zero counts were overwhelmingly those that did not persist. Droplets that persisted almost always had nonzero counts, although the median count among these droplets decreased over time. Together, this suggests that two processes were occurring: a gradual reduction in cell counts while in the liquid matrix, and a complete loss of all cells that occurred very rapidly after the liquid matrix was lost.

Figure S7. Cell counts in droplets that persisted, grouped by flower species. The purpose of this figure is to further explore the gradual cell loss in the liquid matrix observed in Fig. S6. Species were arranged from left to right according to how long droplets could persist on that species (evaluated using a separate proportional hazards model where droplet persistence indicated survival). We found that gradual loss is more rapid for species on the left than those on the right. Therefore, flower morphologies or traits that affect the rate of droplet loss might also affect the rate of gradual cell loss.

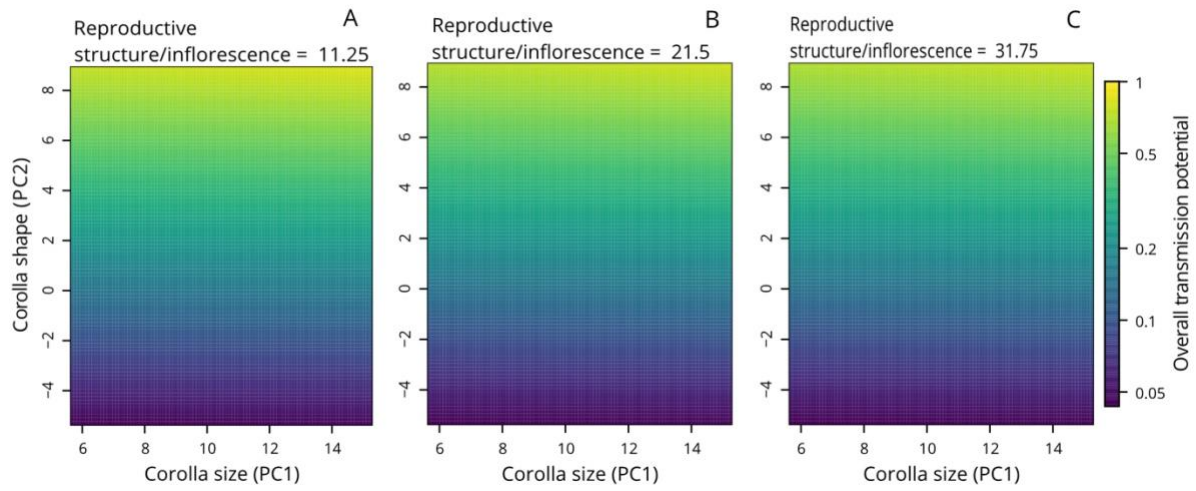


Figure S8. Overall transmission potential. A, B and C show the simultaneous dependence on flower size and shape, with the number of structures per inflorescence set at the 25%, 50% and 75% quantiles of the range, respectively.

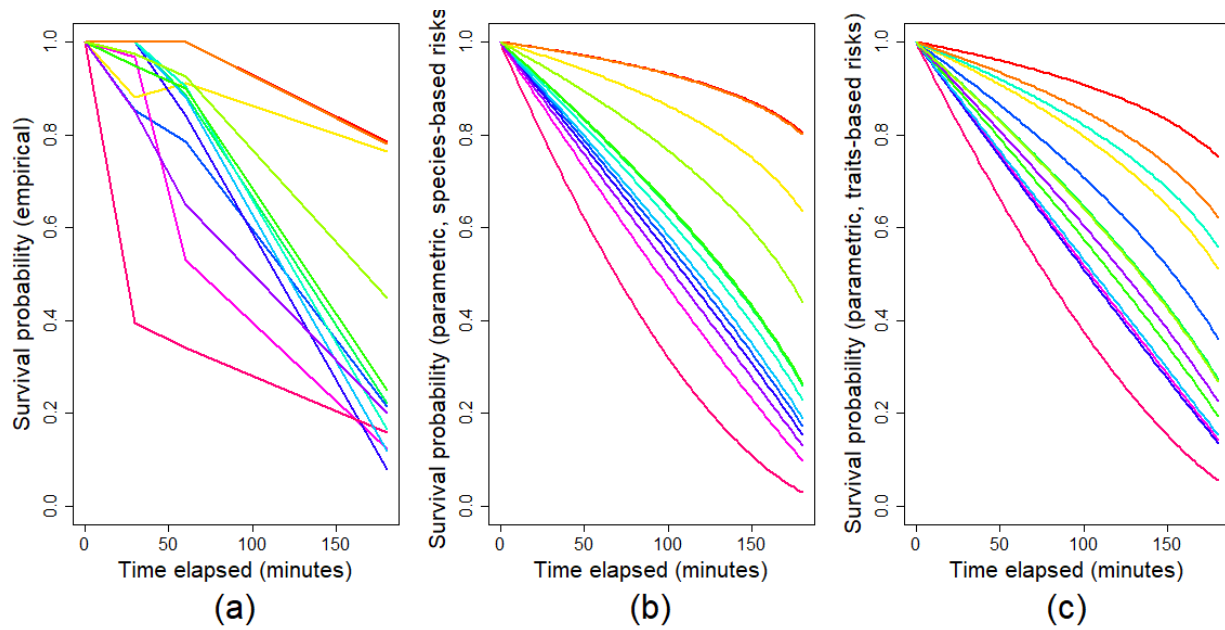


Figure S9: Survival curves of droplets on different plant species. Each color corresponds to one species. (a) Empirical. (b) Parametric with proportional hazards, based on risk scores calculated from a species-based Cox model. (c) Parametric with proportional hazards, based on risk scores calculated from a trait-based Cox model. See the text for the parametric form assumed in (b) and (c).

SUPPLEMENTARY TABLES

Table S1. Pearson correlations between the first two principal components (floral size and shape) and floral morphological traits (corolla width and length). Statistically significant correlations ($P < 0.05$) noted by *. The consistent, positive correlations between PC1 and traits suggest that PC1 describes flower size. The mixture of positive and negative correlations between PC2 and traits suggests that PC2 describes flower shape.

	Floral size (PC1)	Floral shape (PC2)
Corolla width	0.72*	0.71*
Corolla length	0.96*	-0.23*

Table S2. Mean, minimum, maximum, standard deviation (SD) and sample size (N) for each floral trait measured for each plant species, as well as the floral size and shape.

Species	Reproductive structures per stalk	Reproductive structures per stalk	Reproductive structures per stalk	Reproductive structures per stalk	Reproductive structures per stalk
	mean	min	max	SD	N
<i>Agastache foeniculum</i>	17	10	25	4	20
<i>Angelonia Angustifolia</i>	11	3	15	3	20
<i>Antirrhinum majus</i>	2	1	3	1	20
<i>Asclepia tuberosa</i>	11	4	35	6	20
<i>Caryopteris clandonensis</i>	186	55	1326	275	20
<i>Coreopsis verticillata</i>	24	2	64	13	20
<i>Echinacea purpurea</i>	1	1	1	0	20
<i>Kalimeris integrifolia</i>	173	40	441	109	20
<i>Lantana camara</i>	16	2	26	8	20
<i>Pentas lanceolata</i>	26	9	54	10	20
<i>Phlox paniculata</i>	19	2	39	9	20
<i>Phytolacca americana</i>	25	10	42	9	20
<i>Plectranthus sp.</i>	26	12	40	9	20
<i>Rudbeckia hirta</i>	1	1	1	0	20
<i>Solidago nemoralis</i>	26	9	49	11	20
<i>Vitex agnus-castus</i>	42	10	130	29	20
Species	Corolla Length (mm)	Corolla Length (mm)	Corolla Length (mm)	Corolla Length (mm)	Corolla Length (mm)
	mean	min	max	SD	N
<i>Agastache foeniculum</i>	7	6	9	1	20
<i>Angelonia Angustifolia</i>	4	2	5	1	20
<i>Antirrhinum majus</i>	28	24	32	2	20
<i>Asclepia tuberosa</i>	6	5	6	0	20
<i>Caryopteris clandonensis</i>	7	5	8	1	20
<i>Coreopsis verticillata</i>	3	2	4	1	20
<i>Echinacea purpurea</i>	24	18	34	4	20
<i>Kalimeris integrifolia</i>	3	2	4	1	20
<i>Lantana camara</i>	12	11	14	1	20
<i>Pentas lanceolata</i>	16	12	19	2	20
<i>Phlox paniculata</i>	25	20	27	2	20
<i>Phytolacca americana</i>	2	2	2	0	20
<i>Plectranthus sp.</i>	16	1	20	4	20

<i>Rudbeckia hirta</i>	4	3	5	1	10
<i>Solidago nemoralis</i>	3	3	4	0	20
<i>Vitex agnus-castus</i>	8	6	9	1	20
Species	Corolla Width (mm)	Corolla Width (mm)	Corolla Width (mm)	Corolla Width (mm)	Corolla Width (mm)
	mean	min	max	SD	N
<i>Agastache foeniculum</i>	1.93	1.54	2.58	0.31	20
<i>Angelonia Angustifolia</i>	5.14	4.32	6.05	0.54	20
<i>Antirrhinum majus</i>	14.89	11.41	16.82	1.49	20
<i>Asclepia tuberosa</i>	3.10	2.29	3.81	0.38	20
<i>Caryopteris clandonensis</i>	2.45	1.75	3.23	0.49	20
<i>Coreopsis verticillata</i>	6.88	5.81	7.98	0.69	20
<i>Echinacea purpurea</i>	24.38	14.57	32.01	4.39	20
<i>Kalimeris integrifolia</i>	5.55	3.04	8.42	1.52	20
<i>Lantana camara</i>	1.00	0.74	1.54	0.20	20
<i>Pentas lanceolata</i>	2.38	1.45	3.67	0.55	20
<i>Phlox paniculata</i>	3.51	2.96	4.00	0.32	20
<i>Phytolacca americana</i>	1.76	1.53	2.21	0.17	20
<i>Plectranthus sp.</i>	2.07	1.37	2.89	0.44	20
<i>Rudbeckia hirta</i>	12.11	9.79	16.81	2.08	10
<i>Solidago nemoralis</i>	1.74	1.15	2.79	0.48	20
<i>Vitex agnus-castus</i>	3.34	2.21	4.15	0.49	20
Species	Floral size	Floral size	Floral size	Floral size	Floral size
	mean	min	max	SD	N
<i>Agastache foeniculum</i>	7.24	5.70	8.38	0.73	20
<i>Angelonia Angustifolia</i>	5.72	4.87	7.24	0.67	20
<i>Antirrhinum majus</i>	31.50	27.21	36.11	2.56	20
<i>Asclepia tuberosa</i>	6.33	5.21	7.00	0.45	20
<i>Caryopteris clandonensis</i>	6.95	5.01	8.40	0.98	20
<i>Coreopsis verticillata</i>	5.75	4.86	6.70	0.54	20
<i>Echinacea purpurea</i>	32.60	24.45	45.12	5.73	20
<i>Kalimeris integrifolia</i>	5.70	3.91	7.85	1.01	20
<i>Lantana camara</i>	11.34	10.16	12.69	0.68	20
<i>Pentas lanceolata</i>	15.15	11.38	17.60	1.58	20
<i>Phlox paniculata</i>	23.31	19.13	25.55	1.81	20
<i>Phytolacca americana</i>	2.56	2.16	2.88	0.19	20
<i>Plectranthus sp.</i>	15.33	2.43	18.47	3.49	20
<i>Rudbeckia hirta</i>	9.31	7.31	12.68	1.45	20
<i>Solidago nemoralis</i>	3.56	2.92	4.29	0.39	20
<i>Vitex agnus-castus</i>	8.19	6.81	9.46	0.69	20

Species	Floral shape	Floral shape	Floral shape	Floral shape	Floral shape
	mean	min	max	SD	N
<i>Agastache foeniculum</i>	-1.63	-2.26	-0.86	0.40	20
<i>Angelonia Angustifolia</i>	2.82	2.14	4.23	0.52	20
<i>Antirrhinum majus</i>	0.30	-2.24	1.86	1.05	20
<i>Asclepia tuberosa</i>	0.18	-0.43	0.78	0.35	20
<i>Caryopteris clandonensis</i>	-0.88	-1.49	-0.22	0.36	20
<i>Coreopsis verticillata</i>	4.79	3.19	5.70	0.67	20
<i>Echinacea purpurea</i>	10.52	3.66	13.73	2.55	20
<i>Kalimeris integrifolia</i>	3.31	1.20	5.43	1.25	20
<i>Lantana camara</i>	-4.85	-5.63	-4.38	0.33	20
<i>Pentas lanceolata</i>	-5.30	-6.48	-3.67	0.81	20
<i>Phlox paniculata</i>	-8.31	-9.27	-6.00	0.85	20
<i>Phytolacca americana</i>	0.65	0.46	1.06	0.15	20
<i>Plectranthus sp.</i>	-6.05	-7.83	-4.04	1.04	20
<i>Rudbeckia hirta</i>	8.86	6.93	12.42	1.73	10
<i>Solidago nemoralis</i>	0.10	-0.47	0.91	0.39	20
<i>Vitex agnus-castus</i>	-0.53	-1.83	0.14	0.50	20

Table S3. Experiment 1, Deposition: Post-hoc analysis (Tukey's HSD) for the number of droplets on flowers for the species-based model for deposition.

Contrast	Estimate	SE	DF	T ratio	P value
<i>Antirrhinum majus</i> - <i>Caryopteris clandonensis</i>	1.0739	0.4048	175	2.6529	0.11687836
<i>Antirrhinum majus</i> - <i>Coreopsis verticillata</i>	-0.8884	0.4137	175	-2.1474	0.32989712
<i>Antirrhinum majus</i> - <i>Lantana camara</i>	1.1034	0.4149	175	2.6592	0.11514344
<i>Antirrhinum majus</i> - <i>Pentas lanceolata</i>	-1.0643	0.3988	175	-2.6688	0.11254775
<i>Antirrhinum majus</i> - <i>Rudbeckia hirta</i>	-3.0930	0.3936	175	-7.8587	<0.0001
<i>Antirrhinum majus</i> - <i>Vitex agnus</i>	0.0391	0.4210	175	0.0928	0.99999994
<i>Caryopteris clandonensis</i> - <i>Coreopsis verticillata</i>	-1.9624	0.3174	175	-6.1823	<0.0001
<i>Caryopteris clandonensis</i> - <i>Lantana camara</i>	0.0295	0.3118	175	0.0945	0.99999994
<i>Caryopteris clandonensis</i> - <i>Pentas lanceolata</i>	-2.1382	0.2906	175	-7.3571	<0.0001
<i>Caryopteris clandonensis</i> - <i>Rudbeckia hirta</i>	-4.1669	0.2954	175	-14.1058	<0.0001
<i>Caryopteris clandonensis</i> - <i>Vitex agnus</i>	-1.0349	0.3294	175	-3.1418	0.03179459
<i>Coreopsis verticillata</i> - <i>Lantana camara</i>	1.9918	0.3254	175	6.1214	<0.0001
<i>Coreopsis verticillata</i> - <i>Pentas lanceolata</i>	-0.1759	0.3051	175	-0.5764	0.99739741
<i>Coreopsis verticillata</i> - <i>Rudbeckia hirta</i>	-2.2045	0.3080	175	-7.1567	<0.0001
<i>Coreopsis verticillata</i> - <i>Vitex agnus</i>	0.9275	0.3410	175	2.7199	0.09940795
<i>Lantana camara</i> - <i>Pentas lanceolata</i>	-2.1677	0.2949	175	-7.3495	<0.0001
<i>Lantana camara</i> - <i>Rudbeckia hirta</i>	-4.1964	0.3068	175	-13.6782	<0.0001
<i>Lantana camara</i> - <i>Vitex agnus</i>	-1.0643	0.3386	175	-3.1435	0.03163177
<i>Pentas lanceolata</i> - <i>Rudbeckia hirta</i>	-2.0287	0.2849	175	-7.1217	<0.0001
<i>Pentas lanceolata</i> - <i>Vitex agnus</i>	1.1034	0.3190	175	3.4592	0.01188094
<i>Rudbeckia hirta</i> - <i>Vitex agnus</i>	3.1320	0.3188	175	9.8242	<0.0001

Table S4. Experiment 1, Deposition: Post-hoc analysis (Tukey's HSD) for the number of droplets inside the corolla for the species-based model.

contrast	estimate	SE	df	t.ratio	p.value
Antirrhinum majus - Caryopteris clandonensis	-0.6053	0.5733	176	-1.0558	0.93987907
Antirrhinum majus - Coreopsis verticillata	-0.6636	0.6454	176	-1.0283	0.94684402
Antirrhinum majus - Lantana camara	-0.5908	0.5762	176	-1.0254	0.94755728
Antirrhinum majus - Pentas lanceolata	21.4074	4983.6269	176	0.0043	1
Antirrhinum majus - Rudbeckia hirta	-3.0975	0.5845	176	-5.2991	<0.0001
Antirrhinum majus - Vitex agnus	-0.8253	0.5952	176	-1.3866	0.80838417
Caryopteris clandonensis - Coreopsis verticillata	-0.0584	0.4504	176	-0.1296	0.99999959
Caryopteris clandonensis - Lantana camara	0.0144	0.3440	176	0.0420	1
Caryopteris clandonensis - Pentas lanceolata	22.0127	4983.6269	176	0.0044	1
Caryopteris clandonensis - Rudbeckia hirta	-2.4922	0.3579	176	-6.9630	<0.0001
Caryopteris clandonensis - Vitex agnus	-0.2201	0.3751	176	-0.5866	0.99712988
Coreopsis verticillata - Lantana camara	0.0728	0.4541	176	0.1603	0.99999853
Coreopsis verticillata - Pentas lanceolata	22.0711	4983.6269	176	0.0044	1
Coreopsis verticillata - Rudbeckia hirta	-2.4339	0.4647	176	-5.2379	<0.0001
Coreopsis verticillata - Vitex agnus	-0.1617	0.4780	176	-0.3383	0.99987742
Lantana camara - Pentas lanceolata	21.9983	4983.6269	176	0.0044	1
Lantana camara - Rudbeckia hirta	-2.5066	0.3626	176	-6.9138	<0.0001
Lantana camara - Vitex agnus	-0.2345	0.3795	176	-0.6178	0.99617666
Pentas lanceolata - Rudbeckia hirta	-24.5049	4983.6269	176	-0.0049	1
Pentas lanceolata - Vitex agnus	-22.2328	4983.6269	176	-0.0045	1
Rudbeckia hirta - Vitex agnus	2.2721	0.3921	176	5.7948	<0.0001

Table S5. Experiment 1, Deposition: Post-hoc analysis (Tukey's HSD) for the number of droplets outside the corolla for the species-based model

contrast	estimate	SE	df	t.ratio	p.value
Antirrhinum majus - Caryopteris clandonensis	23.927	7217.878	175	0.00331	1
Antirrhinum majus - Coreopsis verticillata	-0.998	0.423	175	-2.36039	0.22197585
Antirrhinum majus - Lantana camara	23.339	6743.605	175	0.00346	1
Antirrhinum majus - Pentas lanceolata	-1.466	0.411	175	-3.56751	0.00829986
Antirrhinum majus - Rudbeckia hirta	-3.065	0.400	175	-7.66083	<0.0001
Antirrhinum majus - Vitex agnus	0.116	0.427	175	0.27212	0.99996587
Caryopteris clandonensis - Coreopsis verticillata	-24.925	7217.878	175	-0.00345	1
Caryopteris clandonensis - Lantana camara	-0.588	9877.953	175	-0.00006	1
Caryopteris clandonensis - Pentas lanceolata	-25.393	7217.878	175	-0.00352	1
Caryopteris clandonensis - Rudbeckia hirta	-26.992	7217.878	175	-0.00374	1
Caryopteris clandonensis - Vitex agnus	-23.811	7217.878	175	-0.00330	1
Coreopsis verticillata - Lantana camara	24.336	6743.605	175	0.00361	1
Coreopsis verticillata - Pentas lanceolata	-0.468	0.310	175	-1.50968	0.7387352
Coreopsis verticillata - Rudbeckia hirta	-2.068	0.312	175	-6.63031	<0.0001
Coreopsis verticillata - Vitex agnus	1.114	0.344	175	3.24138	0.02360774
Lantana camara - Pentas lanceolata	-24.804	6743.605	175	-0.00368	1
Lantana camara - Rudbeckia hirta	-26.404	6743.605	175	-0.00392	1
Lantana camara - Vitex agnus	-23.223	6743.605	175	-0.00344	1
Pentas lanceolata - Rudbeckia hirta	-1.600	0.288	175	-5.55382	<0.0001
Pentas lanceolata - Vitex agnus	1.582	0.321	175	4.93293	<0.0001
Rudbeckia hirta - Vitex agnus	3.182	0.319	175	9.97957	<0.0001

Table S6. Experiment 1, Deposition: Post-hoc analysis (Tukey's HSD) for the number of droplets on the calix for the species-based model

contrast	estimate	SE	df	t.ratio	p.value
Antirrhinum majus - Caryopteris clandonensis	-0.3203	0.9807	175	-0.3266	0.99990021
Antirrhinum majus - Coreopsis verticillata	-1.5038	1.0203	175	-1.4739	0.75991208
Antirrhinum majus - Lantana camara	0.2663	1.0209	175	0.2608	0.99997344
Antirrhinum majus - Pentas lanceolata	21.1493	8361.7173	175	0.0025	1
Antirrhinum majus - Rudbeckia hirta	-4.2634	0.9598	175	-4.4421	0.00031277
Antirrhinum majus - Vitex agnus	24.0405	33453.5527	175	0.0007	1
Caryopteris clandonensis - Coreopsis verticillata	-1.1835	0.6369	175	-1.8583	0.51075998
Caryopteris clandonensis - Lantana camara	0.5865	0.6012	175	0.9756	0.95863312
Caryopteris clandonensis - Pentas lanceolata	21.4696	8361.7173	175	0.0026	1
Caryopteris clandonensis - Rudbeckia hirta	-3.9431	0.5363	175	-7.3529	<0.0001
Caryopteris clandonensis - Vitex agnus	24.3608	33453.5527	175	0.0007	1
Coreopsis verticillata - Lantana camara	1.7700	0.6927	175	2.5552	0.14657703
Coreopsis verticillata - Pentas lanceolata	22.6531	8361.7173	175	0.0027	1
Coreopsis verticillata - Rudbeckia hirta	-2.7596	0.6121	175	-4.5083	0.00023804
Coreopsis verticillata - Vitex agnus	25.5443	33453.5527	175	0.0008	1
Lantana camara - Pentas lanceolata	20.8830	8361.7173	175	0.0025	1
Lantana camara - Rudbeckia hirta	-4.5297	0.6018	175	-7.5267	<0.0001
Lantana camara - Vitex agnus	23.7742	33453.5527	175	0.0007	1
Pentas lanceolata - Rudbeckia hirta	-25.4127	8361.7173	175	-0.0030	1
Pentas lanceolata - Vitex agnus	2.8912	34482.7276	175	0.0001	1
Rudbeckia hirta - Vitex agnus	28.3039	33453.5527	175	0.0008	1

Table S7. Experiment 1, Deposition: Post-hoc analysis (Tukey's HSD) for the number of droplets on flowers in the cage for the species-based model

Contrast	Estimate	SE	df	t.ratio	p.value
<i>Antirrhinum majus</i> - <i>Caryopteris clandonensis</i>	1.8866	0.3543	175	5.32500	<0.0001
<i>Antirrhinum majus</i> - <i>Coreopsis verticillata</i>	-0.7147	0.3593	175	-1.98905	0.42534426
<i>Antirrhinum majus</i> - <i>Lantana camara</i>	1.4135	0.3555	175	3.97634	0.00194335
<i>Antirrhinum majus</i> - <i>Pentas lanceolata</i>	-0.9320	0.3322	175	-2.80512	0.08027277
<i>Antirrhinum majus</i> - <i>Rudbeckia hirta</i>	-2.4162	0.3381	175	-7.14588	<0.0001
<i>Antirrhinum majus</i> - <i>Vitex agnus</i>	-0.2182	0.3468	175	-0.62934	0.99576821
<i>Caryopteris clandonensis</i> - <i>Coreopsis verticillata</i>	-2.6013	0.2928	175	-8.88338	<0.0001
<i>Caryopteris clandonensis</i> - <i>Lantana camara</i>	-0.4731	0.2855	175	-1.65730	0.64527515
<i>Caryopteris clandonensis</i> - <i>Pentas lanceolata</i>	-2.8186	0.2543	175	11.08415	<0.0001
<i>Caryopteris clandonensis</i> - <i>Rudbeckia hirta</i>	-4.3028	0.2683	175	16.03499	0
<i>Caryopteris clandonensis</i> - <i>Vitex agnus</i>	-2.1048	0.2787	175	-7.55331	<0.0001
<i>Coreopsis verticillata</i> - <i>Lantana camara</i>	2.1282	0.2907	175	7.32067	<0.0001
<i>Coreopsis verticillata</i> - <i>Pentas lanceolata</i>	-0.2173	0.2599	175	-0.83586	0.98084363
<i>Coreopsis verticillata</i> - <i>Rudbeckia hirta</i>	-1.7015	0.2746	175	-6.19717	<0.0001
<i>Coreopsis verticillata</i> - <i>Vitex agnus</i>	0.4965	0.2846	175	1.74464	0.58709999
<i>Lantana camara</i> - <i>Pentas lanceolata</i>	-2.3455	0.2480	175	-9.45771	<0.0001
<i>Lantana camara</i> - <i>Rudbeckia hirta</i>	-3.8297	0.2676	175	14.30963	0
<i>Lantana camara</i> - <i>Vitex agnus</i>	-1.6317	0.2776	175	-5.87773	<0.0001
<i>Pentas lanceolata</i> - <i>Rudbeckia hirta</i>	-1.4842	0.2347	175	-6.32391	<0.0001
<i>Pentas lanceolata</i> - <i>Vitex agnus</i>	0.7138	0.2458	175	2.90364	0.06202991

<i>Rudbeckia hirta</i> - <i>Vitex agnus</i>	2.1980	0.2589	175	8.49057	<0.0001
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Table S8. Percentage of trials in which all *Crithidia bombi* cells died after 3 h for each plant species.

Plant species	n trial	n trials where all cells die after 3 h	% of trials where all cells died
<i>Agastache foeniculum</i>	42	33	78.6%
<i>Angelonia angustifolia</i>	32	28	87.5%
<i>Antirrhinum majus</i>	34	8	23.5%
<i>Asclepia tuberosa</i>	42	32	76.2%
<i>Coreopsis verticillata</i>	54	51	94.4%
<i>Echinacea purpurea</i>	40	33	82.5%
<i>Kalimeris integrifolia</i>	44	39	88.6%
<i>Lantana Camara</i>	42	35	83.3%
<i>Pentas lanceolata</i>	12	7	58.3%
<i>Phlox paniculata</i>	42	9	21.4%
<i>Phytolacca americana</i>	20	15	75.0%
<i>Plectranthus</i> sp.	32	7	21.9%
<i>Solidago nemoralis</i>	22	18	81.8%
<i>Vitex agnus-castus</i>	40	22	55.0%

Table S9. Experiment 2, Survival: Post-hoc analysis (Tukey's HSD) for the hazard ratio of different flowers species on *C. bombi* for the species-based model.

Contrast	estimate	SE	z-ratio	p-value
<i>Agastache foeniculum</i> - <i>Angelonia angustifolia</i>	0.149	0.312	0.476	1.000
<i>Agastache foeniculum</i> - <i>Antirrhinum majus</i>	1.590	0.326	4.871	<0.0001
<i>Agastache foeniculum</i> - <i>Asclepia tuberosa</i>	0.339	0.232	1.463	0.964
<i>Agastache foeniculum</i> - <i>Coreopsis verticillata</i>	0.031	0.220	0.140	1.000
<i>Agastache foeniculum</i> - <i>Echinacea purpurea</i>	-0.292	0.283	-1.029	0.998
<i>Agastache foeniculum</i> - <i>Kalimeris integrifolia</i>	0.479	0.312	1.537	0.948
<i>Agastache foeniculum</i> - <i>Lantana Camara</i>	0.206	0.216	0.951	0.999
<i>Agastache foeniculum</i> - <i>Phlox paniculata</i>	2.121	0.364	5.824	<0.0001
<i>Agastache foeniculum</i> - <i>Phytolacca americana</i>	0.360	0.280	1.287	0.987
<i>Agastache foeniculum</i> - <i>Plectranthus</i>	2.259	0.420	5.374	0.000
<i>Agastache foeniculum</i> - <i>Solidago nemoralis</i>	0.241	0.326	0.741	1.000
<i>Agastache foeniculum</i> - (<i>Vitex agnus-castus</i>)	0.791	0.244	3.237	0.063
<i>Angelonia angustifolia</i> - <i>Antirrhinum majus</i>	1.441	0.315	4.580	0.0003
<i>Angelonia angustifolia</i> - <i>Asclepia tuberosa</i>	0.191	0.301	0.634	1.000
<i>Angelonia angustifolia</i> - <i>Coreopsis verticillata</i>	-0.118	0.279	-0.422	1.000
<i>Angelonia angustifolia</i> - <i>Echinacea purpurea</i>	-0.440	0.188	-2.337	0.490
<i>Angelonia angustifolia</i> - <i>Kalimeris integrifolia</i>	0.331	0.216	1.533	0.949
<i>Angelonia angustifolia</i> - <i>Lantana Camara</i>	0.057	0.308	0.185	1.000
<i>Angelonia angustifolia</i> - <i>Phlox paniculata</i>	1.972	0.426	4.630	0.0003
<i>Angelonia angustifolia</i> - <i>Phytolacca americana</i>	0.212	0.337	0.628	1.000

<i>Angelonia angustifolia</i> - <i>Plectranthus</i>	2.110	0.425	4.966	0.0001
<i>Angelonia angustifolia</i> - <i>Solidago nemoralis</i>	0.093	0.248	0.375	1.000
<i>Angelonia angustifolia</i> - (<i>Vitex agnus-castus</i>)	0.642	0.328	1.957	0.761
<i>Antirrhinum majus</i> - <i>Asclepia tuberosa</i>	-1.251	0.328	-3.815	0.009
<i>Antirrhinum majus</i> - <i>Coreopsis verticillata</i>	-1.559	0.314	-4.971	0.0001
<i>Antirrhinum majus</i> - <i>Echinacea purpurea</i>	-1.882	0.293	-6.416	0.0001
<i>Antirrhinum majus</i> - <i>Kalimeris integrifolia</i>	-1.111	0.316	-3.519	0.026
<i>Antirrhinum majus</i> - <i>Lantana Camara</i>	-1.384	0.328	-4.225	0.002
<i>Antirrhinum majus</i> - <i>Phlox paniculata</i>	0.531	0.439	1.209	0.993
<i>Antirrhinum majus</i> - <i>Phytolacca americana</i>	-1.230	0.362	-3.396	0.038
<i>Antirrhinum majus</i> - <i>Plectranthus</i>	0.669	0.458	1.458	0.965
<i>Antirrhinum majus</i> - <i>Solidago nemoralis</i>	-1.348	0.334	-4.033	0.004
<i>Antirrhinum majus</i> - (<i>Vitex agnus-castus</i>)	-0.799	0.346	-2.311	0.509
<i>Asclepia tuberosa</i> - <i>Coreopsis verticillata</i>	-0.309	0.237	-1.304	0.986
<i>Asclepia tuberosa</i> - <i>Echinacea purpurea</i>	-0.631	0.273	-2.308	0.511
<i>Asclepia tuberosa</i> - <i>Kalimeris integrifolia</i>	0.140	0.301	0.465	1.000
<i>Asclepia tuberosa</i> - <i>Lantana Camara</i>	-0.134	0.240	-0.557	1.000
<i>Asclepia tuberosa</i> - <i>Phlox paniculata</i>	1.781	0.379	4.704	0.0002
<i>Asclepia tuberosa</i> - <i>Phytolacca americana</i>	0.021	0.295	0.071	1.000
<i>Asclepia tuberosa</i> - <i>Plectranthus</i>	1.919	0.424	4.529	0.0004
<i>Asclepia tuberosa</i> - <i>Solidago nemoralis</i>	-0.098	0.317	-0.308	1.000
<i>Asclepia tuberosa</i> - (<i>Vitex agnus-castus</i>)	0.452	0.265	1.702	0.894
<i>Coreopsis verticillata</i> - <i>Echinacea purpurea</i>	-0.322	0.251	-1.287	0.987

<i>Coreopsis verticillata</i> - <i>Kalimeris integrifolia</i>	0.448	0.280	1.604	0.929
<i>Coreopsis verticillata</i> - <i>Lantana Camara</i>	0.175	0.227	0.770	1.000
<i>Coreopsis verticillata</i> - <i>Phlox paniculata</i>	2.090	0.372	5.625	<0.0001
<i>Coreopsis verticillata</i> - <i>Phytolacca americana</i>	0.329	0.283	1.163	0.995
<i>Coreopsis verticillata</i> - <i>Plectranthus</i>	2.228	0.414	5.384	<0.0001
<i>Coreopsis verticillata</i> - <i>Solidago nemoralis</i>	0.211	0.298	0.708	1.000
<i>Coreopsis verticillata</i> - (<i>Vitex agnus-castus</i>)	0.760	0.255	2.987	0.127
<i>Echinacea purpurea</i> - <i>Kalimeris integrifolia</i>	0.771	0.191	4.035	0.004
<i>Echinacea purpurea</i> - <i>Lantana Camara</i>	0.497	0.280	1.776	0.862
<i>Echinacea purpurea</i> - <i>Phlox paniculata</i>	2.412	0.406	5.945	<0.0001
<i>Echinacea purpurea</i> - <i>Phytolacca americana</i>	0.652	0.313	2.083	0.676
<i>Echinacea purpurea</i> - <i>Plectranthus</i>	2.550	0.408	6.245	<0.0001
<i>Echinacea purpurea</i> - <i>Solidago nemoralis</i>	0.533	0.226	2.361	0.472
<i>Echinacea purpurea</i> - (<i>Vitex agnus-castus</i>)	1.082	0.302	3.587	0.020
<i>Kalimeris integrifolia</i> - <i>Lantana Camara</i>	-0.274	0.308	-0.888	1.000
<i>Kalimeris integrifolia</i> - <i>Phlox paniculata</i>	1.641	0.426	3.855	0.008
<i>Kalimeris integrifolia</i> - <i>Phytolacca americana</i>	-0.119	0.337	-0.353	1.000
<i>Kalimeris integrifolia</i> - <i>Plectranthus</i>	1.779	0.425	4.182	0.002
<i>Kalimeris integrifolia</i> - <i>Solidago nemoralis</i>	-0.238	0.250	-0.951	0.999
<i>Kalimeris integrifolia</i> - (<i>Vitex agnus-castus</i>)	0.312	0.328	0.950	0.999
<i>Lantana Camara</i> - <i>Phlox paniculata</i>	1.915	0.371	5.168	<0.0001
<i>Lantana Camara</i> - <i>Phytolacca americana</i>	0.155	0.286	0.540	1.000
<i>Lantana Camara</i> - <i>Plectranthus</i>	2.053	0.422	4.862	<0.0001

<i>Lantana Camara - Solidago nemoralis</i>	0.036	0.323	0.111	1.000
<i>Lantana Camara - (Vitex agnus-castus)</i>	0.585	0.254	2.308	0.511
<i>Phlox paniculata - Phytolacca americana</i>	-1.760	0.410	-4.297	0.001
<i>Phlox paniculata - Plectranthus</i>	0.138	0.513	0.269	1.000
<i>Phlox paniculata - Solidago nemoralis</i>	-1.879	0.436	-4.307	0.001
<i>Phlox paniculata - (Vitex agnus-castus)</i>	-1.330	0.387	-3.437	0.034
<i>Phytolacca americana - Plectranthus</i>	1.898	0.451	4.209	0.002
<i>Phytolacca americana - Solidago nemoralis</i>	-0.119	0.352	-0.338	1.000
<i>Phytolacca americana - (Vitex agnus-castus)</i>	0.431	0.308	1.398	0.975
<i>Plectranthus – Solidago nemoralis</i>	-2.017	0.439	-4.597	0.0003
<i>Plectranthus – Vitex agnus-castus</i>	-1.468	0.436	-3.363	0.043
<i>Solidago nemoralis - (Vitex agnus-castus)</i>	0.549	0.342	1.607	0.928

Table S10. Experiment 2, Survival: Comparison between models that included the location of the inoculum droplet on the flower with a model that did not include the location of the droplet.

Plant species	<i>X</i>²	<i>DF</i>	<i>P</i>
<i>Agastache foeniculum</i>	3.7386	1	0.0532
<i>Angelonia angustifolia</i>	0.1039	1	0.7472
<i>Antirrhinum majus</i>	1.8969	1	0.1684
<i>Asclepia tuberosa</i>	0.00081	1	0.9768
<i>Coreopsis verticillata</i>	0.1654	1	0.684
<i>Echinacea purpurea</i>	21.3	1	<0.0001
<i>Kalimeris integrifolia</i>	1.4302	1	0.2317
<i>Lantana Camara</i>	0.1021	1	0.7493
<i>Phlox paniculata</i>	3.5962	1	0.0601
<i>Vitex agnus-castus</i>	2.8487	1	0.0914