

RDA plots and scores, and all genera and species GLM results

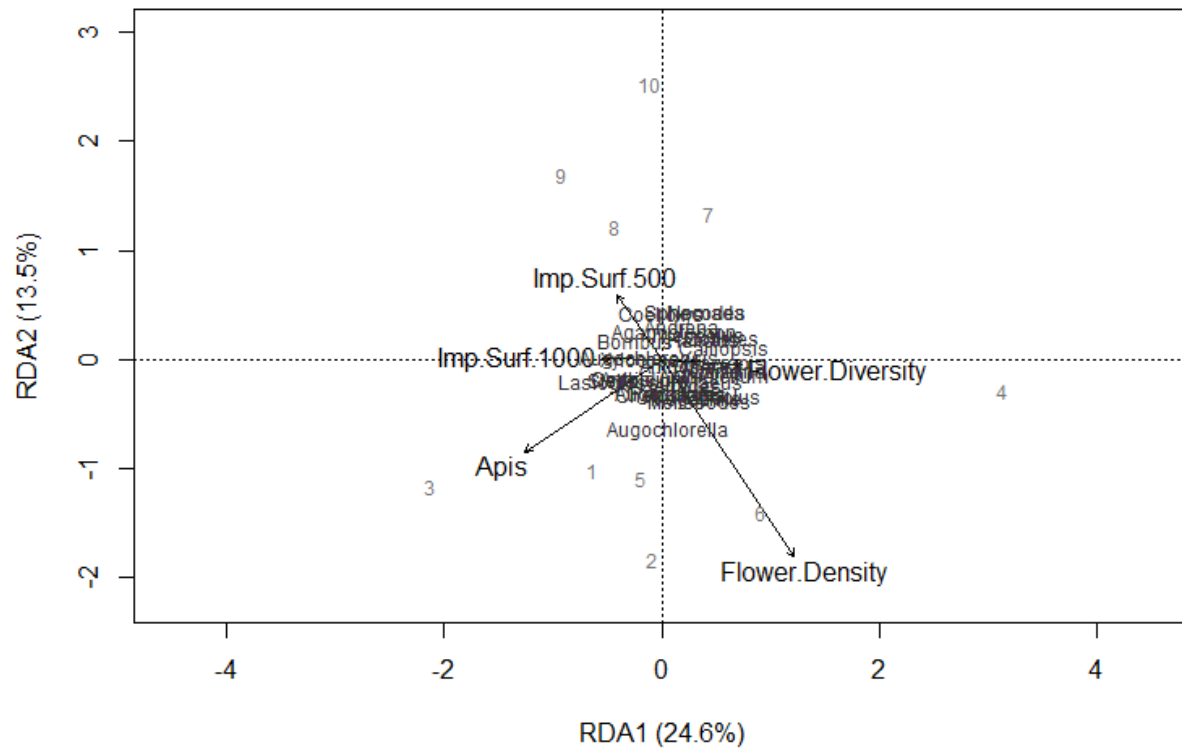


Fig. 1 Biplot of genera RDA to investigate which genera potentially had a significant relationship with honey bee relative abundance

Table 1 RDA scores for each genus for RDA1 and RDA2. The biplot scores for *Apis* were: -0.4664, -0.313721, for RDA1 and RDA2, respectively. Bolded biplot scores and genus names indicate which genera were chosen to be further investigated for possibly negative (i.e. biplot scores with the opposite signs) or positive associations (i.e. biplot scores with the same signs) with relative honey bee abundance

Genus	RDA1	RDA2
<i>Agapostemon</i>	0.124354	0.248887
<i>Andrena</i>	0.179398	0.307711
<i>Anthidiellum</i>	0.477722	-0.140365
<i>Anthidium</i>	-0.14449	-0.163112
<i>Anthophora</i>	0.278164	-0.061877
<i>Augochlora</i>	0.029181	-0.319473
<i>Augochlorella</i>	0.056767	-0.645903
<i>Augochloropsis</i>	-0.109371	0.01123
<i>Bombus</i>	-0.237891	0.177279
<i>Calliopsis</i>	0.573246	0.09571
<i>Ceratina</i>	0.612556	-0.085979
<i>Chelostoma</i>	0.077933	-0.316539
<i>Coelioxys</i>	0.002061	0.419198
<i>Colletes</i>	0.551593	0.211268
<i>Epeolus</i>	0.568165	-0.349339
<i>Halictus</i>	0.387775	0.192487
<i>Heriades</i>	0.184806	-0.232954
<i>Holcopasites</i>	0.588047	-0.03765
<i>Hoplitis</i>	0.418426	-0.113218
<i>Hylaeus</i>	0.421669	-0.205174

<i>Lasioglossum</i>	-0.352503	-0.209395
<i>Macropis</i>	0.588047	-0.03765
<i>Megachile</i>	0.316777	-0.354743
<i>Melissodes</i>	0.345531	-0.368757
<i>Nomada</i>	0.407992	0.44207
<i>Osmia</i>	-0.361942	-0.161274
<i>Peponapis</i>	0.149628	-0.313623
<i>Sphecodes</i>	0.319672	0.430116
<i>Stelis</i>	-0.436751	-0.177089
<i>Triepeolus</i>	0.326342	0.222439
<i>Xylocopa</i>	-0.183951	-0.004412

Table 2 Best GLMs for predicting either genus or species level abundance relationships with honey bee relative abundance. No value means that the predictor was not included in the best model, which was based on AIC_c or quasi-AIC_c values depending on the distribution of the GLM. Light grey indicates a significantly positive association, and darker grey indicates a significantly negative association. (a) indicates a Poisson distribution, (b) indicates a quasi-Poisson distribution (based on overdispersion test)

Species/Genus	Flower Density			Flower Diversity			Relative Apis			Imp.Surface.1000			Imp.Surface.500		
	Res. Dev	Z (a) /T (b)	Est.	Res. Dev	Z (a) /T (b)	Est.	Res. Dev	Z (a) /T (b)	Est.	Res. Dev	Z (a) /T (b)	Est.	Res. Dev	Z (a) /T (b)	Est.
<i>Agapostemon</i> (b)													390.94	0.31	0.394
<i>Agapostemon virescens</i> (b)													136.29	1.504	2.230
<i>Andrena</i> (b)							314.63	-1.461	-2.602						
<i>Andrena imitatrix</i> (a)	39.861	-0.975	-0.002	38.28	2.007	0.41109	34.534	-2.363	-2.067	30.701	-2.344	-8.744	26.909	1.812	3.426
<i>Andrena nasonii</i> (b)							220.45	-0.846	2.2387						
<i>Andrena cressonii</i> (a)	39.128	3.338	-0.004993										23.386	3.965	2.796179**
<i>Andrena wilkella</i> (a)										19.825	-2.307	-3.1655			
<i>Anthidium</i> (b)							222.13	1.185	3.768						
<i>Anthidium oblongatum</i> (b)							212.92	1.265	4.018						
<i>Halictus</i> (b)				287.6	1.66	0.506				215.05	-1.491	-4.240			
<i>Halictus confusus</i> (b)										194.65	-1.515	-5.71			
<i>Halictus ligatus</i> (b)				91.242	3.216	0.547									
<i>Halictus rubicundus</i> (a)				16.493	2.866	0.2896*									
<i>Lasioglossum</i> (a)	543.82	0.05	0.001	480.67	-1.45	-0.469	438.88	-1.082	-1.565	437.73	4.017	10.755	60.61	-5.099	-7.1594*
<i>Lasioglossum imitatum</i> (a)	38.226	6.514	0.019***										27.464	-3.313	-2.398**
<i>Lasioglossum leucozonium</i> (b)										28.993	-1.862	-4.76			
<i>Lasioglossum hitchensi</i> (a)				466.38	-8.019	-1.746**	439.02	-6.577	-7.998**	419.83	10.195	22.407***	8.28	15.661	-15.075***
<i>Lasioglossum paradmirationum</i> (a)				135.121	-3.681	-1.244**				121.464	7.139	23.966***	4.331	-8.213	-14.388***

<i>Lasioglossum weemsi</i> (a)				57.0 44	-3.272	-0.867* *				54.389	5.406	16.037	8.906	-6.382	-9.530* **
<i>Nomada</i> (b)							310.78	-1.629	-4.898						
<i>Nomada bethunei</i> (a)							57.183	-6.622	-9.390* **	37.416	-4.719	-30.877 ***	11.02	4.305	11.545 ***
<i>Osmia</i> (a)	92.07	-0.75	-0.001* *	83.7 62	-0.702	-0.104	83.754	0.946	0.758	83.288	5.083	7.901	38.087	-6.755	-5.771* **
<i>Osmia albiventris</i> (a)										212.92	-1.658	-2.434			
<i>Osmia conjuncta</i> (b)	190.99 6	0.491	0.012				186.12 2	0.899	13.608	184.54 4	2.636	18.126	51.351	-2.305	-17.063 *
<i>Xylocopa</i> (b)	192.13	-1.143	-0.014	163. 18	1.527	1.345							120.41	-1.334	-4.133

Significance levels: ^N near significant, p = between 0.05 and 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

