

Supplementary Information Chapter 4

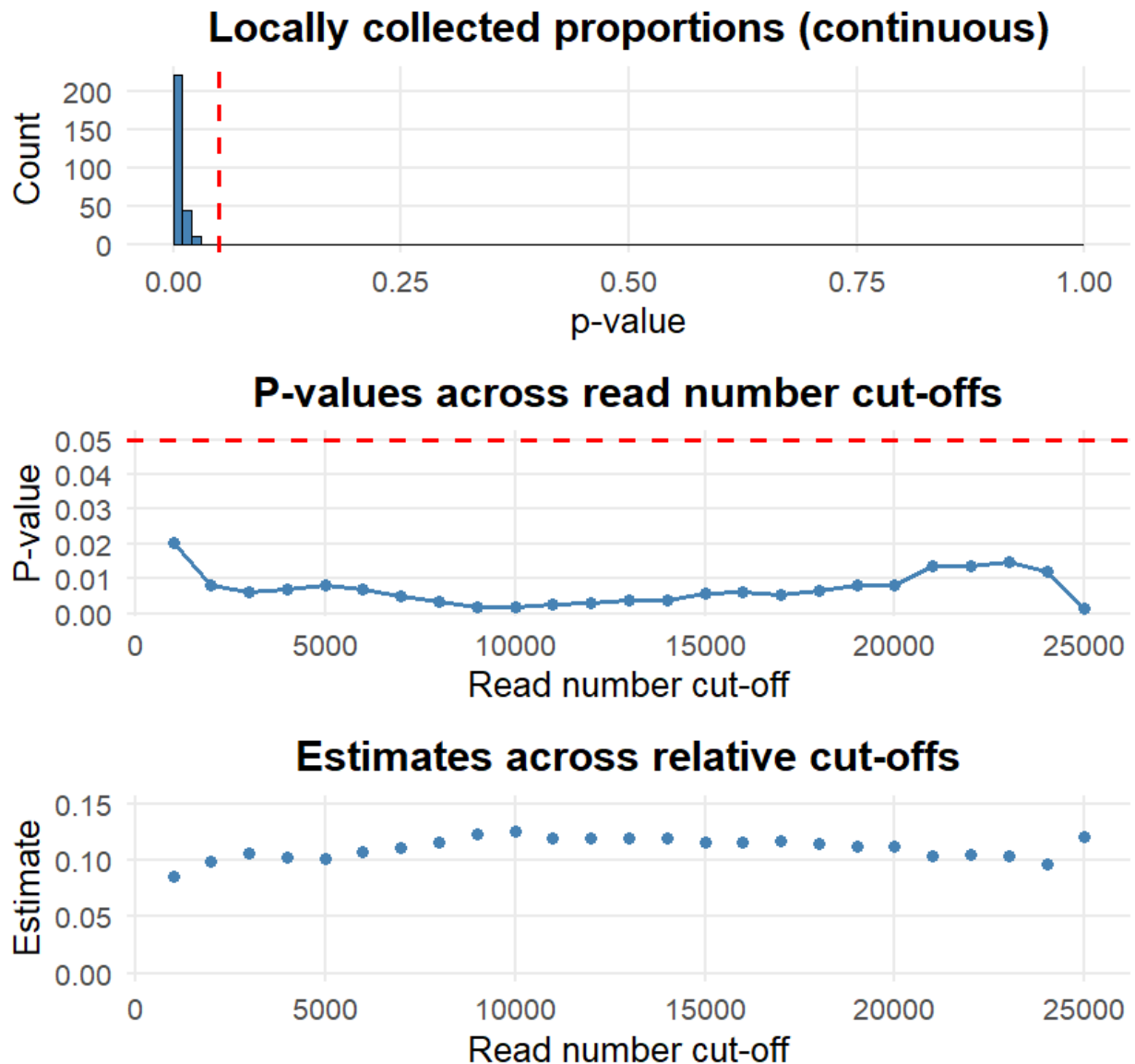
Appendix 1: Table showing all candidate models with the proportion of pollen collected locally as the response variable. The independent variables within the model are given in the first column. The second part of the table gives the effect size (scaled for all factors to facilitate comparison) with standard error, associated P-value (>0.05 = NS, <0.05 = *, <0.01 = **, <0.001 = ***), the effect size and P-value for the interaction term (when applicable), Model AICc value and Akaike model weight (ω) for the continuous proportions approach (presented in text). The final two columns give the model AICc values and weights when using discrete proportions. The most parsimonious model is given in bold text.

Proportion local collection	Continuous proportions (presented in text)					Discrete proportions	
<i>Candidate Model</i>	<i>Estimate ± SE</i>	<i>p_{val}</i>	<i>Interaction n</i>	<i>AICc</i>	<i>ω</i>	<i>AICc</i>	<i>ω</i>
<i>One factor models</i>							
Flower Species Richness	0.14 ± 0.08	NS		0.4	<0.00	6046.2	<0.00
Flowering plant Abundance (FU/m ²)	0.27 ± 0.08	**		-7.9	0.15	6037.8	0.15
Flower Species Richness + Landscape Flowering plant Abundance	0.14 ± 0.08	NS		2.5	<0.00	6084.2	<0.00
Flowering plant Abundance (FU/m ²) + Landscape Flowering plant Abundance	0.28 ± 0.08	**		-6.4	0.07	6039.3	0.07
<i>Two factor models</i>							
Flower Species Richness + Flowering plant Abundance (FU/m ²)	0.05 ± 0.09	NS		-6.2	0.06	6039.6	0.06

Flower Species Richness × Flowering plant Abundance (FU/m ²)	0.04 ± 0.08 NS 0.30 ± 0.12 (*) -10.2 0.46 0.07 ± 0.11 NS	6035.5 0.46
Flower Species Richness + Flowering plant Abundance (FU/m ²) + Landscape Flowering plant Abundance	0.04 ± 0.09 NS 0.26 ± 0.09 ** -4.5 0.03	6041.3 0.03
Flower Species Richness × Flowering plant Abundance (FU/m ²) + Landscape Flowering plant Abundance	0.07 ± 0.09 NS 0.38 ± 0.04 (*) -8.9 0.24 0.09 ± 0.10 NS	6036.8 0.24

Appendix 2: Overview of the number of samples per species group when considering no filtering (column one), and the 12.500 read counts minimum (column two) presented in text.

	Reads > 0	Reads > 12.5k
Beetle	28	12
Bumblebee	90	74
Butterfly	15	7
Fly	58	19
Honeybee	30	15
Syrphid fly	127	71
Wasp	7	3
Wild bee	167	85
Total	522	286



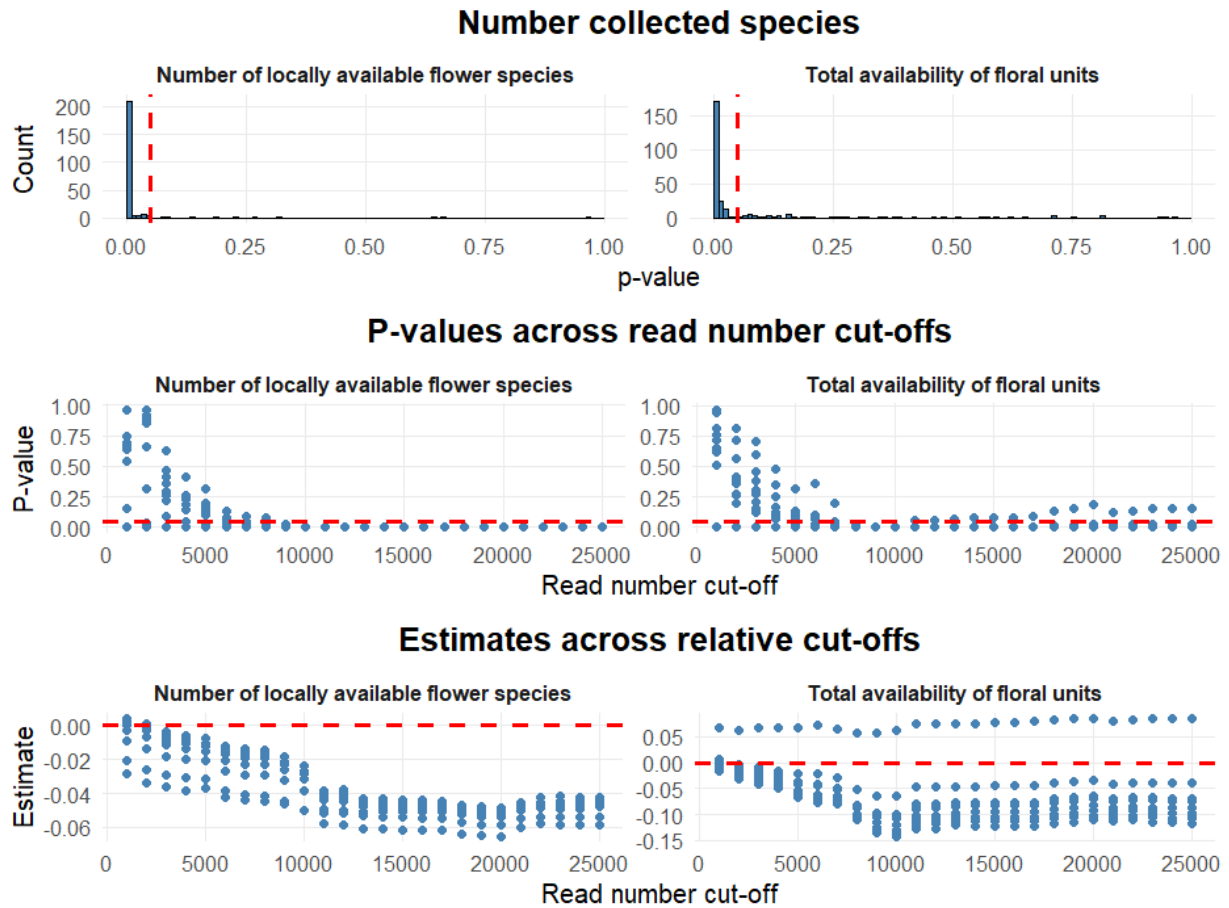
Appendix 3: P-values and model estimates for the interaction term (local flower species richness ×

local flowering plant abundance) from the most parsimonious model on the proportion of pollen collected from locally present flower species under different minimum read count cut-off values, ranging from 1000 – 25000 with 1000 step increments, and minimum proportions between 0 and 0.01 (increments of 0.001). The first panel gives a histogram for the P-values from all different filtering combinations. The second panel gives the P-value for each read cut-off value and the final panel the interaction term estimate (not scaled).

Appendix 4: Table showing all candidate models with the proportion of pollen collected locally as the response variable. The independent variables within the model are given in the first column. The second part of the table gives the effect size (scaled for all factors to facilitate comparison) with standard error, associated P-value (>0.05 = NS, <0.05 = *, <0.01 = **, <0.001 = ***), the effect size and P-value for the interaction term (when applicable), Model AICc value and Akaike model weight (ω) for the continuous proportions approach (presented in text). The final two columns give the model AICc values and weights when using discrete proportions. The most parsimonious model is given in bold text.

Number species visited	Truncated-Poisson				
Candidate Model	Estimate $\pm$ SE	p_{val}	Interaction	AIC	ω
<i>single models</i>					
Flower Species Richness	-0.12 $\pm$ 0.03	***		1624.9	<0.00
Flowering plant Abundance (FU/m ²)	-0.15 $\pm$ 0.03	***		1613.2	<0.00
Flower Species Richness with abundance in environment	-0.18 $\pm$ 0.03	***		1609.3	<0.00
Flowering plant Abundance (FU/m ²) with abundance in environment	-0.14 $\pm$ 0.03	***		1613.2	<0.00
<i>combined models</i>					
Flower Species Richness + Flowering plant Abundance (FU/m ²)	-0.10 $\pm$ 0.03	**		1604.9	0.02
Flower Species Richness $\times$ Flowering plant Abundance (FU/m ²)	-0.11 $\pm$ 0.03	***	0.08 $\pm$ 0.04 (*)	1603.1	0.04
	-0.17 $\pm$ 0.04	***			
	-0.14 $\pm$ 0.03	***		1597.5	0.67

Flower Species Richness + Flowering plant Abundance (FU/m²)	-0.11 ± 0.03	***			
Flower Species Richness × Flowering plant Abundance (FU/m²)	-0.14 ± 0.04	***	-0.03 ± 0.06 (NS)	1599.3	0.27
	-0.09 ± 0.05	NS			



Appendix 5: P-values and model estimates for both flower species richness (left) and flowering plant abundance (right) from the most parsimonious model on the number of flower species collected pollen when applying different minimum read count cut-off values, ranging from 1000 – 25000 with 1000 step increments, and minimum proportions between 0 and 0.01 (increments of 0.001). The first panel gives a histogram for the P-values from all different filtering combinations. The second panel gives the P-value for each read cut-off value given different minimum proportions and the final panel the interaction term estimate (not scaled).

Appendix 6 Model outcomes for Pianka overlap. The first column gives the explanatory variable. The second part gives the parameter estimate (all scaled to facilitate comparison), standard error of the estimate and P-value (>0.05 = NS, <0.05 = *, <0.01 = **, <0.001 = ***) for the model considering overlap calculated on both locally and landscape level collected pollen. The third part gives the same values for a model considering overlap calculated based on only locally available resources.

	Local + Landscape level collection			Only local collection		
Explanatory variable	Estimate	Standard Error	P- Value	Estimate	Standard Error	P-Value
Flower Species Richness	-0.18	0.07	*	-0.71	0.10	***
Flowering plant Abundance	-0.02	0.08	NS	-0.08	0.10	NS
Pollinator community Species Richness	0.30	0.08	***	0.53	0.13	***