Electronic supplementary material

Figure S1. Photographs illustrating (A) hive used to propagate *Tetragonula carbonaria* colonies set up at plant species rich forest site, (B) typical brood spirale of *T. carbonaria* with advancing front as seen when opening hives for propagation and sampling, and (C) top, middle and bottom box of *T. carbonaria* opened in the field to sample brood cells and record colony fitness parameters.

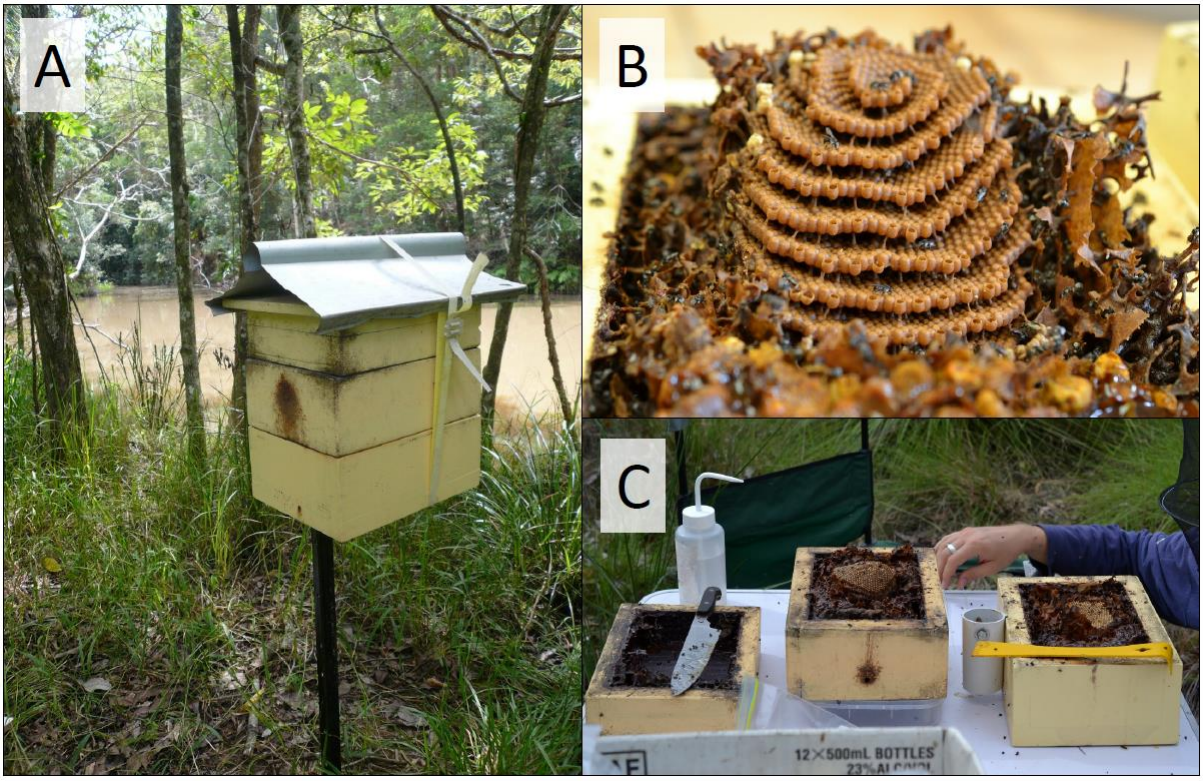

Figure S2. Plant species number (left) and Shannon diversity (right) of pollen provisions in the three investigated habitats (F = forest, G = gardens, P = plantations).

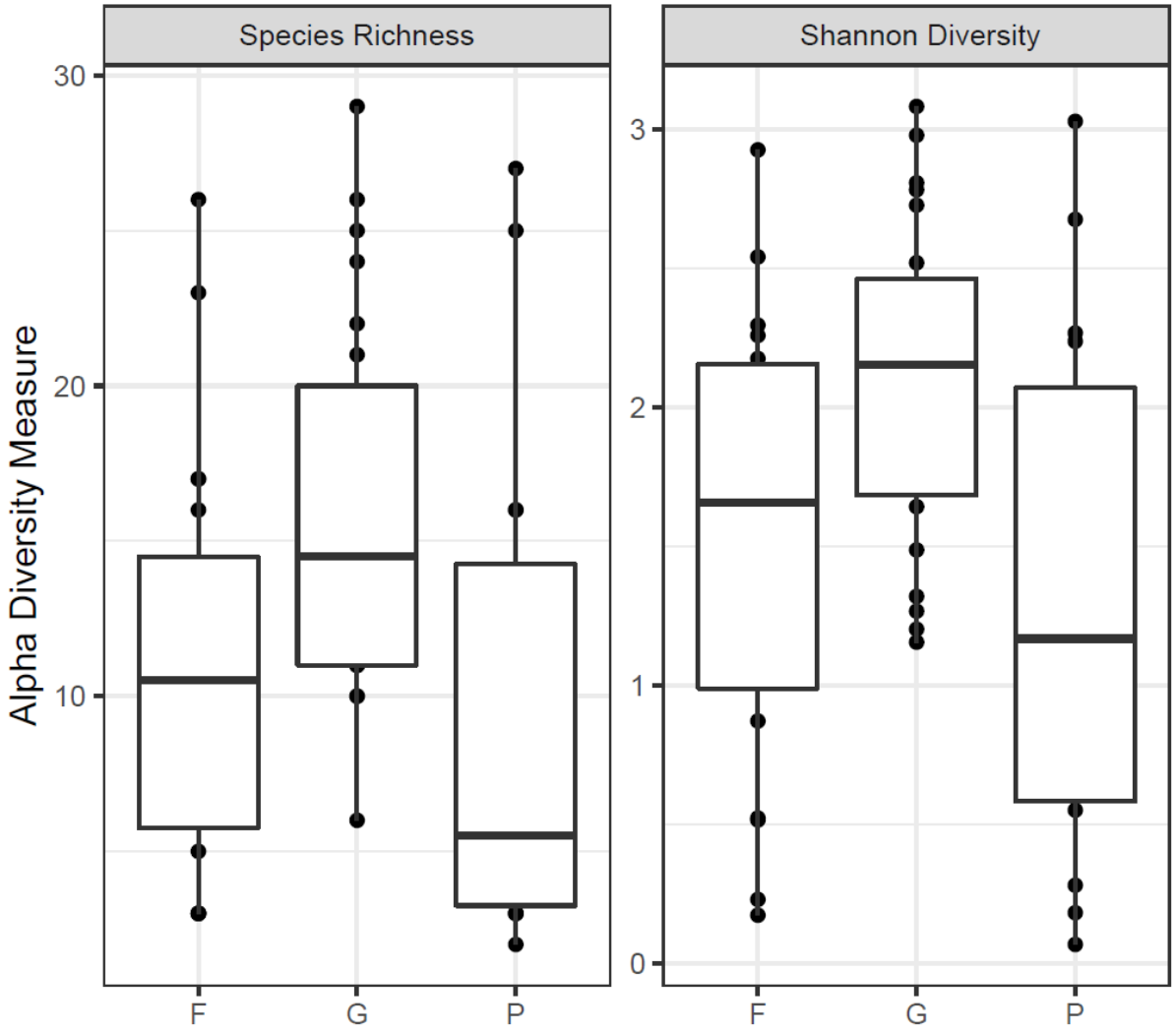

Figure S3. Most abundant plant taxa according to metabarcoding read abundance accumulated over all samples in this study. Taxa for which species level assignments were not possible are denoted with "unclassified" and the deepest possible taxonomic level.

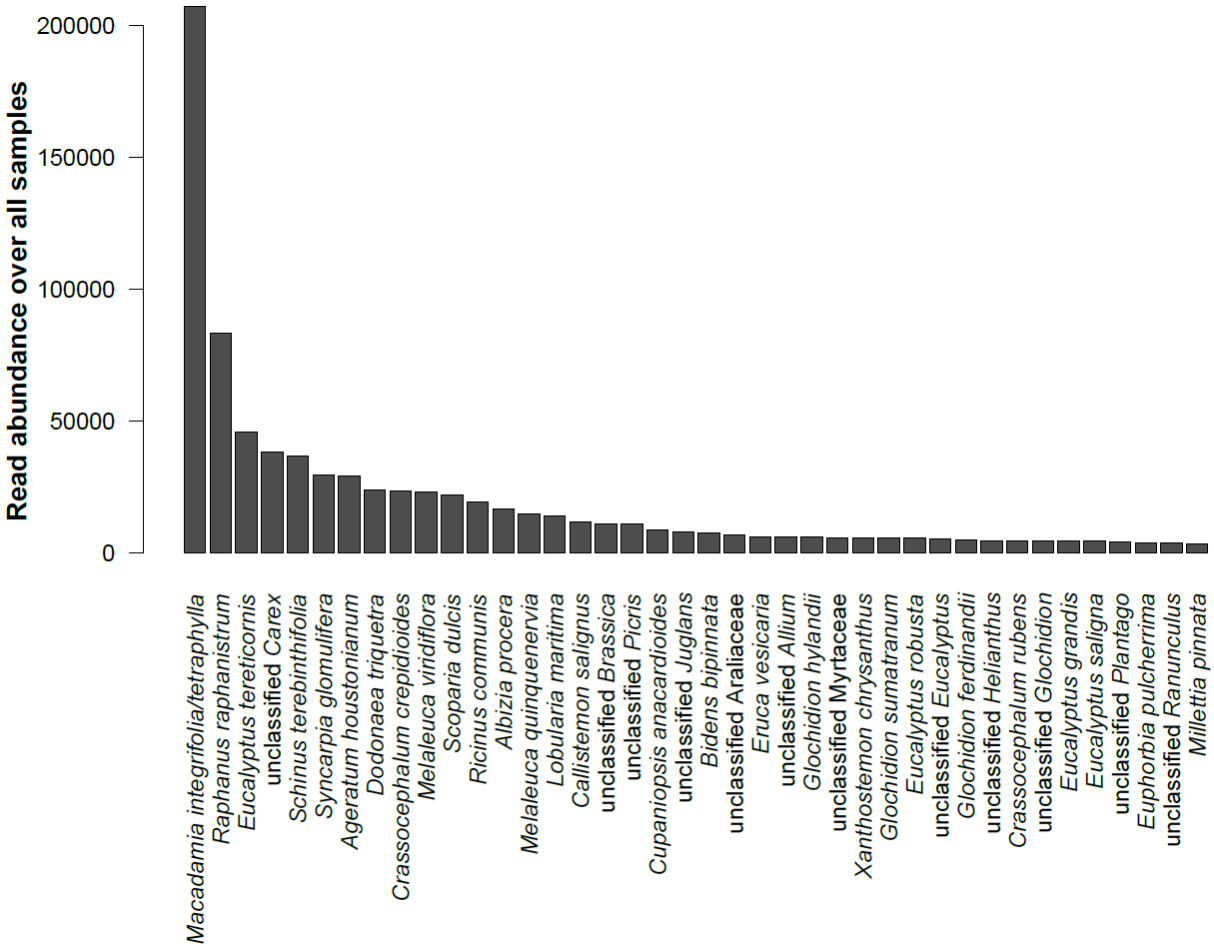

Table S1. Larval provision (LP) samples collected from various colonies at sites situated in three different habitats (forest (F), garden (G) and plantation (P)) differing in the plant species richness (Richness) surrounding colonies and analyzed for their weight, sucrose (S, in mg/ mg LP), protein (P, i.e. total amino acid in µg/mg LP) and fat (F, i.e. total fatty acid in µg/mg LP) content as well as nutrient ratios (S:F, S:P and P:F) and the richness of floral sources in LP (Floral richness). NA indicates missing values. Note that there are some missing values for weights/amounts of larval provisions, because we occasionally did not succeed in extracting all material from all collected brood cells and therefore had less material than was originally within brood cells. We only measured amounts of those brood cells were we had managed to extract all material.

Sample ID	Colony	GPS coordinates	Site	Date of sampling	Rich-ness	Habi-tat	LP weight/ cell	Sucrose [mg/mg]	Protein [µg/mg]	Fat [µg/mg]	Floral richness	S:F	S:P	P:F
T9	H101	24°38'29"S 152°7'34"E	F1N	2/21/2012	53	F	NA	0.57	58.49	9.12	17	62.94	9.81	6.41
T12	H134	s.a.a.	F1N	6/19/2012	53	F	NA	0.97	92.54	NA	NA	NA	9.53	NA
T122	H148	s.a.a.	F1N	4/23/2016	53	F	NA	0.23	38.56	6.3	NA	36.89	5.12	6.12
T44	H148	s.a.a.	F1N	10/19/2012	53	F	NA	0.63	97.05	NA	22	NA	5.85	NA
T123	H209	s.a.a.	F1N	4/23/2016	53	F	5.75	0.35	40.65	NA	NA	NA	7.22	NA
T25	H209	s.a.a.	F1N	8/23/2011	53	F	7.16	0.69	55.41	26.86	15	25.71	11.32	2.06
T45	H209	s.a.a.	F1N	10/19/2012	53	F	NA	0.81	79.85	NA	7	NA	9.25	NA
T64	H209	s.a.a.	F1N	6/15/2013	53	F	NA	0.62	63.22	NA	6	NA	8.84	NA
T125	H184	24°46'11"S 152°6'23"E	F2N	4/23/2016	139	F	6.29	0.26	38.15	6.23	NA	41.76	5.78	6.12
T49	H184	s.a.a.	F2N	10/17/2012	139	F	NA	0.74	63.26	NA	7	NA	10.23	NA
T66	H184	s.a.a.	F2N	9/30/2013	139	F	5.76	0.48	38.27	8.58	4	56.42	11.17	4.46
T127	H194	s.a.a.	F2N	4/23/2016	139	F	7.49	0.25	26.02	4.28	NA	57.73	7.67	6.08
T124	H215	s.a.a.	F2N	4/23/2016	139	F	8.09	0.23	60.4	5.72	NA	40.16	3.33	10.56
T22	H215	s.a.a.	F2N	8/22/2011	139	F	6.30	0.63	66.15	NA	11	NA	8.56	NA
T10	H215	s.a.a.	F2N	4/1/2012	139	F	NA	0.62	80.79	NA	16	NA	6.94	NA
T68	H215	s.a.a.	F2N	1/17/2013	139	F	7.42	0.67	54.19	NA	15	NA	10.88	NA
T85	H103	26°43'18"S 153°1'12"E	F3C	11/14/2013	156	F	7.08	0.49	36.53	NA	23	NA	11.47	NA
T3	H191	s.a.a.	F3C	1/31/2012	156	F	NA	0.68	82.72	NA	6	NA	7.2	NA
T26	H207	s.a.a.	F3C	9/6/2011	156	F	NA	0.65	53.35	NA	9	NA	11.16	NA
T16	H207	s.a.a.	F3C	7/5/2012	156	F	NA	0.72	91.94	NA	21	NA	7.12	NA
T4	H272	s.a.a.	F3C	1/31/2012	156	F	NA	0.75	115.57	NA	NA	NA	5.98	NA
T55	H272	s.a.a.	F3C	3/14/2013	156	F	NA	0.8	104.36	NA	12	NA	6.89	NA
T19	H113	26°50'2"S 152°54'57"E	F4C	7/24/2012	173	F	7.12	0.61	48	NA	4	NA	11.35	NA
T101	H150	s.a.a.	F4C	4/8/2016	173	F	7.33	0.24	63.73	NA	NA	NA	3.38	NA
T2	H150	s.a.a.	F4C	1/20/2012	173	F	NA	0.65	32.85	NA	8	NA	17.18	NA
T115	H169	s.a.a.	F4C	4/8/2016	173	F	NA	0.32	32.05	5.35	NA	60.11	8.37	5.99
T117	H177	s.a.a.	F4C	4/8/2016	173	F	5.60	0.25	57.11	6.78	NA	36.45	3.85	8.42
T51	H177	s.a.a.	F4C	11/7/2012	173	F	6.86	0.69	125.76	NA	4	NA	4.98	NA
T67	H177	s.a.a.	F4C	11/15/2013	173	F	NA	0.79	81.1	NA	NA	NA	8.72	NA
T18	H274	s.a.a.	F4C	7/20/2012	173	F	9.20	0.6	51.01	NA	10	NA	10.26	NA
T70	H274	s.a.a.	F4C	3/5/2013	173	F	6.30	0.71	41.4	NA	9	NA	14.95	NA
T29	H118	24°50'26"S 152°28'26"E	G1N	9/17/2011	259	G	6.22	0.53	66.01	7.28	7	72.66	7.33	9.07
T7	H199	s.a.a.	G1N	2/21/2012	288	G	5.57	0.64	20.96	3.67	20	175.38	25.42	5.71
T71	H199	s.a.a.	G1N	3/7/2013	288	G	7.20	0.67	96.3	NA	19	NA	6.28	NA
T121	H231	s.a.a.	G1N	4/28/2016	288	G	7.91	0.22	30.65	6.24	NA	34.96	5.89	4.91

T28	H243	s.a.a.	G1N	9/17/2011	288	G	6.38	0.64	108.64	NA	12	NA	5.35	NA
T63	H279	s.a.a.	G1N	6/14/2013	288	G	6.68	0.47	51.01	9.3	14	50.25	8.01	5.48
T132	H347	s.a.a.	G1N	4/28/2016	288	G	7.11	0.21	40.47	6.43	NA	33.44	4.39	6.29
T43	H108	26°40'42"S 153° 6'40"E	G2C	11/5/2012	239	G	4.63	0.69	78.62	NA	11	NA	7.93	NA
T65	H129	s.a.a.	G2C	6/27/2013	278	G	7.85	0.76	62.22	NA	19	NA	10.84	NA
T91	H137	s.a.a.	G2C	3/9/2016	239	G	7.16	0.48	29.48	6.71	14	71.94	13.97	4.39
T27	H138	s.a.a.	G2C	9/6/2011	239	G	6.22	0.65	96.75	NA	12	NA	5.95	NA
T84	H138	s.a.a.	G2C	11/14/2013	239	G	6.51	0.47	44.59	NA	18	NA	9.46	NA
T35	H170	s.a.a.	G2C	9/28/2011	278	G	5.98	0.56	64.93	4.91	9	114.93	7.79	13.22
T89	H172	s.a.a.	G2C	3/9/2016	239	G	7.62	0.61	39.98	7.14	18	85.8	13.54	5.6
T90	H370	s.a.a.	G2C	3/9/2016	278	G	6.85	0.75	32.2	18.61	13	40.42	20.52	1.73
T113	H371	s.a.a.	G2C	5/2/2016	239	G	4.46	0.31	35.72	6.96	NA	44.28	7.21	5.13
T98	H393	s.a.a.	G2C	5/2/2016	278	G	7.37	0.23	48.7	5.97	NA	38.5	4.15	8.16
T103	H396	s.a.a.	G2C	5/2/2016	239	G	7.60	0.22	47.98	4.8	NA	45.98	4.05	10
T24	H107	27°29'0"S 153° 0'16"E	G3S	8/10/2011	340	G	NA	0.81	61.47	NA	NA	NA	11.82	NA
T83	H107	s.a.a.	G3S	11/6/2013	340	G	7.45	0.47	49.8	10.78	14	43.94	8.51	4.62
T13	H152	s.a.a.	G3S	6/26/2012	411	G	9.18	0.37	54.84	3.68	14	99.4	5.97	14.9
T42	H233	s.a.a.	G3S	12/12/2012	411	G	6.12	0.64	104.67	NA	15	NA	5.52	NA
T80	H233	s.a.a.	G3S	7/9/2013	411	G	6.62	0.43	50.93	9	14	48.05	7.37	5.66
T105	H320	s.a.a.	G3S	5/6/2016	411	G	7.12	0.25	31.14	5.08	NA	48.73	6.56	6.13
T95	H422	s.a.a.	G3S	5/6/2016	340	G	NA	0.17	66.05	NA	NA	NA	2.18	NA
T106	H123	27°29'46"S 153° 1'24"E	G4S	4/15/2016	411	G	5.73	0.28	50.76	7.02	NA	39.53	4.75	7.23
T14	H162	s.a.a.	G4S	6/26/2012	398	G	7.91	0.49	36.7	8.21	14	59.44	11.55	4.47
T107	H211	s.a.a.	G4S	4/15/2016	411	G	7.46	0.25	44.46	6.96	NA	35.73	4.84	6.39
T23	H211	s.a.a.	G4S	8/10/2011	411	G	6.24	0.7	83.38	NA	NA	NA	7.63	NA
T82	H211	s.a.a.	G4S	10/19/2013	411	G	6.93	0.48	52.67	8.58	9	55.47	7.9	6.14
T11	H226	s.a.a.	G4S	4/3/2012	398	G	11.42	0.46	81.9	NA	9	NA	5.01	NA
T15	H266	s.a.a.	G4S	6/26/2012	398	G	7.42	0.65	28.14	NA	17	NA	20.22	NA
T69	H266	s.a.a.	G4S	1/24/2013	398	G	6.24	0.75	109.29	NA	14	NA	6.16	NA
T114	H299	s.a.a.	G4S	5/6/2016	398	G	7.79	0.23	28.17	5.46	NA	41.87	6.7	5.16
T112	H363	s.a.a.	G4S	4/15/2016	411	G	7.07	0.24	51.33	5.8	NA	41.39	4.08	8.85
T111	H404	s.a.a.	G4S	5/6/2016	398	G	6.30	0.26	41.56	7.52	NA	34.56	5.45	5.53
T21	H164	24°46'25"S 152°15'10"E	P1N	8/1/2012	40	P	NA	0.88	17.05	NA	NA	NA	45.84	NA
T72	H164	s.a.a.	P1N	3/8/2013	40	P	NA	0.76	34.53	NA	6	NA	18.49	NA
T5	H237	s.a.a.	P1N	2/20/2012	40	P	6.32	0.66	46.09	12.92	18	50.83	11.99	3.57
T6	H153	24°47'5"S 152°15'25"E	P2N	2/20/2012	51	P	4.54	0.66	77.1	NA	10	NA	7.62	NA
T126	H196	s.a.a.	P2N	4/23/2016	51	P	6.57	0.24	45.07	9.38	NA	26.02	4.31	4.81
T52	H225	s.a.a.	P2N	11/24/2012	51	P	NA	0.91	61.53	NA	14	NA	12.99	NA
T131	H242	s.a.a.	P2N	4/23/2016	51	P	NA	0.35	52.75	7.21	NA	48.41	5.29	7.32
T76	H242	s.a.a.	P2N	3/30/2013	51	P	NA	0.58	65.41	NA	6	NA	7.84	NA
T81	H135	24°47'9"S 152°16'6"E	P3N	10/10/2013	134	P	NA	0.61	37.12	NA	2	NA	14.22	NA
T128	H160	s.a.a.	P3N	4/24/2016	134	P	8.02	0.22	39.43	10.02	NA	21.7	4.46	3.94
T41	H160	s.a.a.	P3N	9/21/2011	134	P	6.10	0.68	112.71	NA	5	NA	5.45	NA
T8	H160	s.a.a.	P3N	2/21/2012	134	P	6.38	0.51	44.69	NA	21	NA	9.58	NA
T47	H160	s.a.a.	P3N	10/16/2012	134	P	6.32	0.75	142.04	NA	5	NA	4.77	NA
T46	H165	s.a.a.	P3N	10/16/2012	134	P	NA	0.64	113.59	NA	3	NA	5.18	NA

T129	H225	s.a.a.	P3N	4/24/2016	134	P	6.65	0.25	33.31	9.06	NA	27.36	5.73	3.68
T20	H244	s.a.a.	P3N	8/1/2012	134	P	8.48	0.63	90.04	NA	5	NA	6.28	NA
T130	H308	s.a.a.	P3N	4/24/2016	134	P	7.54	0.23	48.88	9.7	NA	24.17	4.04	5.04
T17	H168	26°53'13"S 152°56'5"E	P4C	7/16/2012	69	P	7.11	0.49	45.88	7.06	5	69.22	9.18	6.5
T108	H174	s.a.a.	P4C	5/5/2016	69	P	7.89	0.2	31.16	8.11	NA	25	5.5	3.84
T54	H178	s.a.a.	P4C	3/5/2013	69	P	7.90	0.55	41.71	12.07	14	45.18	11.47	3.46
T50	H251	s.a.a.	P4C	10/23/2012	69	P	6.22	0.62	70.06	NA	4	NA	7.89	NA

Table S2. Mean concentration (in µg/mg larval provision) ± standard deviation of single amino acids in larval provisions of *Tetragonula carbonaria* colonies placed in three different habitats (gardens (G), forests (F) and plantations (P)). Results shown for generalized linear models (GLM, *F*- and *p*-values) on habitat and surrounding plant species richness (richness) effects, Spearman correlations against surrounding plant species richness (correlation coefficients *r* and *p*-values *p*) and Tukey-posthoc-comparisons (Tukey). Bold values indicate significant differences and/or correlations and asterisks give significance levels (**p* < 0.05, ***p* < 0.01, ****p* < 0.001). NS not significant (*p* > 0.05). NA not applicable/tested. Amino acids essential to honeybees (according to de Groot (1953)) are marked in bold and italics.

	Habitat			GLM (richness)		Spearman correlation (richness)		GLM (habitat)		Tukey (habitat, *p*)		
	Garden	Forest	Plantation	*F*	*p*	*r*	*p*	*F*	*p*	G-F	F-P	G-P
Asparagine	8.78±3.97	9.50±3.92	8.89±4.86	0.004	0.950	0.010	0.923	0.266	0.767	NA	NA	NA
Threonine	2.95±1.62	3.55±1.76	3.33±2.11	0.488	0.487	-0.072	0.505	0.957	0.388	NA	NA	NA
Serine	4.91±2.01	5.43±2.03	5.18±2.53	0.049	0.825	-0.029	0.790	0.495	0.612	NA	NA	NA
Glutamic acid	3.57±1.88	4.31±2.17	4.93±2.63	2.180	0.144	-0.222	**0.038***	2.736	0.071	NA	NA	NA
Proline	4.69±1.63	5.28±1.66	5.06±2.23	0.183	0.670	-0.055	0.612	0.924	0.401	NA	NA	NA
Glycine	3.19±1.30	3.67±1.51	3.49±1.74	0.376	0.541	-0.087	0.420	0.874	0.421	NA	NA	NA
Alanine	3.40±1.55	4.04±1.66	3.53±1.98	0.294	0.589	-0.057	0.598	1.246	0.239	NA	NA	NA
Valine	1.95±1.06	2.24±1.07	2.14±1.29	0.139	0.710	-0.056	0.603	0.558	0.574	NA	NA	NA
Methionine	0.76±0.34	0.61±0.34	0.61±0.31	7.258	**0.008****	0.281	**0.008****	2.254	0.111	NA	NA	NA
Isoleucine	1.71±0.77	1.90±0.78	1.77±0.10	0.017	0.896	-0.005	0.966	0.480	0.620	NA	NA	NA
Leucine	5.58±2.60	6.28±2.61	5.84±3.25	0.107	0.744	-0.036	0.740	0.543	0.583	NA	NA	NA
Tyrosine	1.78±0.92	2.15±1.00	1.95±1.17	0.445	0.507	-0.071	0.513	1.132	0.327	NA	NA	NA
Phenylalanine	2.23±1.06	2.56±1.14	2.27±1.39	0.093	0.762	-0.020	0.850	0.733	0.484	NA	NA	NA
Lysine	5.32±2.07	6.03±2.56	5.38±3.04	0.005	0.944	0.031	0.777	0.763	0.470	NA	NA	NA
Histidine	1.63±0.63	1.87±0.71	1.66±0.88	0.033	0.857	0.016	0.880	1.072	0.347	NA	NA	NA
Arginine	3.75±1.56	4.14±1.70	3.48±2.04	0.150	0.700	0.067	0.535	0.969	0.384	NA	NA	NA

Table S3. Mean mass proportion (in % of total amino acid content in larval provision) ± standard deviation of single amino acids in larval provisions of *Tetragonula carbonaria* colonies placed in three different habitats (gardens (G), forests (F) and plantations (P)). Results shown for generalized linear models (GLM, *F*- and *p*-values) on habitat and surrounding plant species richness (richness) effects, Spearman correlations against surrounding plant species richness (correlation coefficients *r* and *p*-values *p*) and Tukey-posthoc-comparisons (Tukey). Bold values indicate significant differences and/or correlations and asterisks give significance levels (*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$). NS not significant ($p > 0.05$). Amino acids essential to honeybees (according to de Groot (1953) are marked in bold and italics.

	Habitat			GLM (richness)		Spearman correlation (richness)		GLM (habitat)		Tukey (habitat, *p*)		
	Garden	Forest	Plantation	*F*	*p*	*r*	*p*	*F*	*p*	G-F	F-P	G-P
Asparagine	15.56±0.86	14.87±0.81	14.78±0.84	10.467	**0.002****	0.305	**0.004****	7.189	**0.001****	NS	NS	**0.003****
Threonine	5.06±0.80	5.39±0.80	5.39±0.64	3.436	0.067	-0.141	0.192	1.936	0.151	NA	NA	NA
Serine	8.83±0.44	8.66±0.48	8.84±0.48	1.083	0.301	0.113	0.295	1.401	0.252	NA	NA	NA
Glutamic acid	6.17±0.96	6.55±0.96	8.46±2.10	13.015	**<0.001*****	-0.411	**<0.001*****	21.232	**<0.001*****	NS	**<0.001*****	**<0.001*****
Proline	8.64±1.12	8.74±1.86	8.87±1.72	0.078	0.781	0.063	0.561	0.149	0.862	NA	NA	NA
Glycine	5.76±0.38	5.78±0.31	5.93±0.37	3.047	0.084	-0.219	**0.040***	1.636	0.201	NA	NA	NA
Alanine	6.03±0.37	6.36±0.43	5.89±0.43	2.487	0.119	-0.134	0.211	9.600	**<0.001*****	**0.004****	**<0.001*****	NS
Valine	3.35±0.55	3.43±0.44	3.49±0.42	0.667	0.417	-0.024	0.824	0.588	0.558	NA	NA	NA
Methionine	1.43±0.60	1.09±0.67	1.16±0.67	6.383	**0.013***	0.267	**0.012***	2.602	0.080	NA	NA	NA
Isoleucine	3.03±0.20	2.99±0.24	2.94±0.21	1.762	0.188	0.158	0.141	1.040	0.358	NA	NA	NA
Leucine	9.85±0.67	9.84±1.00	9.73±0.90	0.021	0.885	0.007	0.948	0.150	0.861	NA	NA	NA
Tyrosine	3.08±0.42	3.31±0.34	3.18±0.38	3.741	0.056	-0.147	0.171	2.838	0.064	NA	NA	NA
Phenylalanine	3.91±0.27	3.98±0.28	3.73±0.36	0.000	0.977	0.007	0.952	4.456	**0.014***	NS	**0.012***	NS
Lysine	9.64±0.86	9.49±1.01	8.97±1.37	3.110	0.081	0.198	0.065	2.730	0.071	NA	NA	NA
Histidine	2.94±0.31	3.00±0.41	2.79±0.30	0.805	0.372	0.078	0.471	2.294	0.107	NA	NA	NA
Arginine	6.70±0.41	6.52±0.46	5.75±0.64	20.360	**<0.001*****	0.441	**<0.001*****	26.112	**<0.001*****	NS	**<0.001*****	**<0.001*****

Table S4. Mean concentration (in ng/mg larval provision) ± standard deviation of single fatty acids in larval provisions of *Tetragonula carbonaria* colonies placed in three different habitats (gardens (G), forests (F) and plantations (P)). Results shown for generalized linear models (GLM, *F*- and *p*-values) on habitat and surrounding plant species richness (richness) effects, Spearman correlations against surrounding plant species richness (correlation coefficients *r* and *p*-values *p*) and Tukey-posthoc-comparisons (Tukey). Bold values indicate significant differences and/or correlations and asterisks give significance levels (**p* < 0.05, ***p* < 0.01, ****p* < 0.001). NS not significant (*p* > 0.05). Note that linolenic acid and oleic acid could not be entirely separated.

	Habitat			GLM (richness)		Spearman correlation (richness)		GLM (habitat)		Tukey (habitat, *p*)		
	Garden	Forest	Plantation	*F*	*p*	*r*	*p*	*F*	*p*	G-F	F-P	G-P
Caprylic acid	1.51±1.24	1.76±1.73	1.36±0.58	0.727	0.399	-0.114	0.479	0.230	0.796	NA	NA	NA
Pelargonic acid	1.35±0.68	1.93±1.99	1.46±0.64	3.201	0.084	-0.227	0.154	0.912	0.410	NA	NA	NA
Adipic acid	0.49±0.48	0.81±0.73	0.78±0.92	5.579	**0.023***	-0.247	0.119	1.083	0.349	NA	NA	NA
Capric acid	23.08±13.25	31.18±21.84	26.04±9.75	4.022	0.052	-0.395	**0.011***	0.964	0.391	NA	NA	NA
Undecanoic acid	0.45±0.23	0.75±0.95	0.53±0.22	3.127	0.085	-0.248	0.118	1.181	0.318	NA	NA	NA
Lauric acid	25.42±11.96	31.24±17.62	25.56±9.39	1.715	0.198	-0.185	0.248	0.703	0.501	NA	NA	NA
Myristic acid	125.09±50.28	158.57±69.72	133.42±38.50	2.213	0.145	-0.179	0.262	1.296	0.285	NA	NA	NA
Pentadecanoic acid	2.17±1.04	2.82±1.82	2.54±1.07	3.225	0.080	-0.241	0.130	0.952	0.395	NA	NA	NA
Palmitic acid	1837.38±807.89	2220.21±1238.29	1825.42±430.97	1.251	0.270	-0.130	0.417	0.709	0.499	NA	NA	NA
cis-10-Heptadecenoic acid	2.24±0.97	2.78±0.73	2.85±0.98	3.038	0.089	-0.201	0.208	1.959	0.155	NA	NA	NA
Stearic acid	1666.59±694.37	2041.58±942.56	1725.73±468.82	1.553	0.220	-0.160	0.317	0.902	0.414	NA	NA	NA
Nonadecanoic acid	6.61±4.02	7.60±5.77	5.65±1.92	0.046	0.831	-0.052	0.746	0.499	0.611	NA	NA	NA
Arachidic acid	105.06±46.50	127.76±47.49	119.80±35.00	2.194	0.147	-0.217	0.173	0.964	0.391	NA	NA	NA
Behenic acid	33.80±16.91	38.43±25.52	36.85±12.97	0.527	0.472	-0.095	0.555	0.267	0.790	NA	NA	NA
Lignoceric acid	1.56±1.03	1.59±1.04	1.82±0.81	1.246	0.271	-0.244	0.124	0.238	0.789	NA	NA	NA
Oleic acid	2.29±1.03	2.80±2.10	2.74±0.89	2.315	0.136	-0.227	0.154	0.682	0.512	NA	NA	NA
Linoleic acid	2567.93±1230.42	3223.98±3815.51	4762.69±1735.89	6.721	**0.013***	-0.384	**0.013***	3.406	**0.044***	NS	NS	**0.034***
Linolenic acid	818.60±362.59	905.01±867.32	828.71±251.48	0.441	0.511	0.003	0.987	0.100	0.905	NA	NA	NA

Table S5. Mean mass proportion (in $^{0}/_{0000}$ of total fatty acid content in larval provision) ± standard deviation of single fatty acids in larval provisions of *Tetragonula carbonaria* colonies placed in three different habitats (gardens (G), forests (F) and plantations (P)). Results shown for generalized linear models (GLM, *F*- and *p*-values) on habitat and surrounding plant species richness (richness) effects, Spearman correlations against surrounding plant species richness (correlation coefficients *r* and *p*-values *p*) and Tukey-posthoc-comparisons (Tukey). Bold values indicate significant differences and/or correlations and asterisks give significance levels (**p* < 0.05, ***p* < 0.01, ****p* < 0.001). NS not significant (*p* > 0.05). Note that linolenic acid and oleic acid could not be entirely separated.

	Habitat			GLM (richness)		Spearman correlation (richness)		GLM (habitat)		Tukey (habitat, *p*)		
	Garden	Forest	Plantation	*F*	*p*	*r*	*p*	*F*	*p*	G-F	F-P	G-P
Caprylic acid	1.98±0.90	1.96±1.17	1.41±0.48	0.144	0.706	0.098	0.540	1.369	0.267	NA	NA	NA
Pelargonic acid	1.95±0.86	1.99±0.83	1.52±0.44	<0.001	0.988	-0.041	0.800	1.153	0.326	NA	NA	NA
Adipic acid	0.70±0.63	0.92±0.67	0.75±0.77	2.033	0.162	-0.151	0.345	0.345	0.710	NA	NA	NA
Capric acid	31.86±9.89	37.13±9.56	27.98±11.11	0.599	0.444	-0.063	0.698	1.873	0.168	NA	NA	NA
Undecanoic acid	0.71±0.50	0.72±0.37	0.58±0.24	<0.001	0.976	-0.056	0.730	0.352	0.706	NA	NA	NA
Lauric acid	35.26±5.51	39.52±12.60	26.68±6.42	0.420	0.521	0.238	0.134	6.607	**0.003****	NS	**0.003****	**0.020***
Myristic acid	176.87±35.39	209.83±75.23	141.38±31.23	0.383	0.540	0.289	0.067	4.972	**0.012***	NS	**0.009****	NS
Pentadecanoic acid	3.07±0.93	3.50±1.67	2.60±0.72	0.020	0.889	0.076	0.635	1.526	0.230	NA	NA	NA
Palmitic acid	2558.46±329.38	2765.48±609.57	1970.55±500.02	2.203	0.146	0.310	**0.048***	8.287	**0.001****	NS	**0.001****	**0.004****
cis-10-Heptadecenoic acid	3.16±1.10	3.88±1.48	3.01±0.77	0.005	0.947	0.110	0.495	1.634	0.209	NA	NA	NA
Stearic acid	2335.40±350.40	2617.71±623.07	1874.40±576.47	1.292	0.263	0.250	0.115	5.761	**0.007****	NS	**0.005****	**0.045***
Nonadecanoic acid	8.82±3.38	8.71±3.39	6.06±1.95	2.751	0.105	0.258	0.104	2.660	0.083	NA	NA	NA
Arachidic acid	145.94±31.72	167.82±40.99	128.53±35.95	0.313	0.579	0.138	0.389	2.896	0.068	NA	NA	NA
Behenic acid	46.04±15.71	47.20±21.58	37.90±8.34	1.261	0.268	0.275	0.082	1.002	0.377	NA	NA	NA
Lignoceric acid	2.20±1.45	1.90±0.86	1.85±0.55	0.121	0.730	0.030	0.853	0.377	0.688	NA	NA	NA
Oleic acid	3.22±0.76	3.27±0.65	2.86±0.57	0.577	0.452	0.105	0.513	0.991	0.381	NA	NA	NA
Linoleic acid	3509.15±680.47	3107.77±1202.85	4906.00±1150.81	3.875	0.056	-0.364	**0.019***	10.014	**<0.001*****	NS	**<0.001*****	**0.001****
Linolenic acid	1135.21±189.36	980.68±323.82	865.93±183.00	9.729	**0.003****	0.479	**0.002****	5.139	**0.011***	NS	NS	**0.011***