

Table S1. Set of variables considered in the GL and GLM effects models explaining bees' responses in the different experiments.

Experiment	Phase	Variable	Chi sq	P-values
<i>Palatability of different nectar solutions on caged bees</i>	Control (prior to treatments)	Treatment	1.3563	0.1181
	Treatments	Treatment	3.0976	0.01306
<i>Olfactory classical conditioning of proboscis extension</i>	Training	TrialxTreatment	14.146	0.5145
		Trial	74.527	4.577e⁻¹⁶
		Treatment	145.88	2.2e-16
	Trial 4	Treatment	61.79	5.183e⁻¹²
	Trial 5	Treatment	51.925	5.59e⁻¹⁰
	Test	Treatment	39.081	2.287e⁻⁰⁷
<i>Olfactory classical conditioning of proboscis extension excluding the K⁺ effect</i>	Training	TrialxTreatment	4.1398	0.6578
		Trial	9.6151	0.02214
		Treatment	2.8085	0.2455
	Test	Treatment	1.6723	0.4334

Table S2. Trail 4 of the training phase of the Olfactory classical conditioning of proboscis extension. Z values (below diagonal) and p-values (above diagonal) obtained from comparisons between treatments.

Treatment	SS	K ⁺	Luteolin + K ⁺	Naringenin + K ⁺	Quercetin + K ⁺	Naringenin + Quercetin + K ⁺
SS		0.265895	0.327	3.65e⁻⁰⁵	2.23e⁻⁰⁵	2.61e⁻⁰⁸
K ⁺	1.113		0.1171	0.0319	0.0240	0.000811
Luteolin + K ⁺	0.979	1.567		0.000401	0.000282	4.52e⁻⁰⁶
Naringenin + K ⁺	4.129	2.145	3.539		0.8905	0.1778
Quercetin + K ⁺	4.240	2.257	3.631	0.138		0.2288
Naringenin + Quercetin + K ⁺	5.565	3.349	4.586	1.348	1.203	

Table S3. Trail 5 of the training phase of the Olfactory classical conditioning of proboscis extension. Z values (below diagonal) and p-values (above diagonal) obtained from comparisons between treatments.

Treatment	SS	K ⁺	Luteolin + K ⁺	Naringenin + K ⁺	Quercetin + K ⁺	Naringenin + Quercetin + K ⁺
SS		0.0215	0.4648	3.78e⁻⁰⁶	0.0520	3.81e⁻⁰⁷
K ⁺	2.300		0.0264	0.0689	0.7469	0.0276
Luteolin + K ⁺	0.731	2.221		0.000102	0.0503	2.35e⁻⁰⁵
Naringenin + K ⁺	4.623	1.819	3.886		0.029990	0.6931
Quercetin + K ⁺	1.943	0.323	1.957	2.170		0.01053
Naringenin + Quercetin + K ⁺	5.078	2.203	4.229	0.395	2.558	

Table S4. Test phase of the Olfactory classical conditioning of proboscis extension.
Z values (below diagonal) and p-values (above diagonal) obtained from comparisons between treatments.

Treatment	SS	K ⁺	Luteolin + K ⁺	Naringenin + K ⁺	Quercetin + K ⁺	Naringenin + Quercetin + K ⁺
SS		0.00562	0.40779	1.28 e⁻⁰⁵	0.03459	1.28 e⁻⁰⁵
K ⁺	1.1325		0.14924	0.28854	0.52792	0.28854
Luteolin + K ⁺	0.3476	0.7850		0.0113	0.3807	0.0113
Naringenin + K ⁺	1.6826	0.5500	1.3350		0.0783	1.000
Quercetin + K ⁺	0.8071	0.3254	0.4595	0.8755		0.0783
Naringenin + Quercetin + K ⁺	1.6826	0.5500	1.3350	1.490 e ⁻¹⁵	0.8755	