

Supplementary material

Table S1. Analysis of variance contrasting the proportion of wasps of *Vespula germanica* and *Vespula vulgaris* (species) that positively responded to sugar solutions of different concentrations (trial). Bold letters indicate there were statistical differences. Fit: glmer (response:yes.no~ Species*trial + (1|id) + (1|nest), data=datos_fluid, family="binomial").

	α^2	d.f.	p ($>\alpha^2$)
Species	5,63	1	0,02
trial	69,05	6	<0,001
Species:trial	18,56	6	<0,01

Table S2. Post-hoc contrasts between *Vespula germanica* and *Vespula vulgaris* considering the proportion of workers that responded positively to the sucrose solution according to the species. Bold letters indicate there were statistical differences. Fit: glmer (response ~ trial_st_wor + (1 | id), data = data3, family = "binomial").

Sucrose (Brix)	Proportion responding (mean $\pm$ s.e.)		Estimate	Std. Error	z value	P(> z)
	<i>V. germanica</i>	<i>V. vulgaris</i>				
0.01	0.46 $\pm$ 0.08	0.35 $\pm$ 0.08	0.458	0.553	0.828	0.4076
0.1	0.32 $\pm$ 0.08	0.29 $\pm$ 0.08	0.283	0.583	0.486	0.6273
1	0.27 $\pm$ 0.07	0.47 $\pm$ 0.09	-0.639	0.566	-1.128	0.2592
3	0.43 $\pm$ 0.08	0.74 $\pm$ 0.08	-1.374	0.562	-2.444	0.0145
5	0.54 $\pm$ 0.08	0.74 $\pm$ 0.08	-1.527	0.588	-2.595	0.095
10	0.54 $\pm$ 0.08	0.82 $\pm$ 0.07	-1.872	0.612	-3.059	0.0022
50	0.81 $\pm$ 0.07	0.97 $\pm$ 0.03	-2.544	1.152	-2.209	0.0272

Table S3. Post-hoc comparisons for the proportion of *Vespula germanica* and *Vespula vulgaris* foragers carrying “water” (Brix <1), “sugary liquid” (Brix $\geq$ 1) or “empty” measured on *V. germanica* (n=6) and *V. vulgaris* (n=9) nests. Bold numbers highlight statistical differences.

	Proportion of wasps (mean $\pm$ s.e.)		Estimate	Std. Error	z value	P(> z)
	<i>V. germanica</i>	<i>V. vulgaris</i>				
Water (Brix<1)	0.08 $\pm$ 0.11	0.05 $\pm$ 0.07	-0.16	0.03	-4.84	<.0001
Sugary liquid (Brix $\geq$ 1)	0.64 $\pm$ 0.12	0.51 $\pm$ 0.09	0.15	0.03	4.34	<.0001
Empty	0.28 $\pm$ 0.14	0.44 $\pm$ 0.11	0.01	0.01	0.78	0.4344

Table S4. The effect of incoming carbohydrate concentration on nests and individual parameters were measured on *Vespula germanica* (n=6) and *Vespula vulgaris* (n=9) nests. No significant differences were found between species in most parameters, except for the number of total cells (gyne + worker) and worker cells. Significant effects are highlighted in bold.

		Full model effect	Brix	Species	Brix * Species
Nest traffic (workers/min)		F=0.45; P=0.72; d.f.=3	t=0.24; P=0.81; d.f.=1	t=-0.06; P= 0.96; d.f.=1	t=-0.82; P=0.43; d.f.=1
Number of cells	Gyne + Worker	F=4.01; P=0.04; d.f.=3	t=2.26; P=0.04; d.f.=1	t=0.33; P=0.75; d.f.=1	t=0.9; P=0.39; d.f.=1
	Gyne	F=0.95; P=0.45; d.f.=3	t=-0.01; P=0.99; d.f.=1	t=0.91; P=0.38; d.f.=1	t=-1.08; P=0.30; d.f.=1
	Worker	F=4.64; P=0.02; d.f.=3	t=2.56; P=0.03; d.f.=1	t=0.14; P=0.87; d.f.=1	t=1.26; P=0.23; d.f.=1
Nutritional index	Gyne	F=0.68; P=0.58; d.f.=3	t=-1.39; P=0.20; d.f.=1	t=-0.77; P=0.46; d.f.=1	t=-0.53; P=0.64; d.f.=1
	Worker	F=0.39; P=0.76; d.f.=3	t=0.44; P=0.67; d.f.=1	t=-1.00; P=0.34; d.f.=1	t=-0.07; P=0.94; d.f.=1