

Experiment 1

		indiv. 1	indiv. 2	indiv. 3	indiv. 4	indiv. 5
Phase 1	bout 1	52143	1345	231	54123	321
	bout 2	2541	23514	12345 *	13542	342
	bout 3	45213	125	35412	15432	42153
	bout 4	12453	153	35412	15234	45123 *
	bout 5	5412	43125	21345	12543	45123 *
	bout 6	21543 *	32154 *	54231	3421	54123
	bout 7	24513	12354	15432	51423	4325
	bout 8	54213	35214	23154	14352	32154 *
	bout 9	51243	31254	23154	42135	4512
	bout 10	21543 *	34152	15423	54123	12435
	bout 11	12	23154	21534	3425	25413
	bout 12	12354	43215 *	21543 *	21534	34215
	bout 13	43215 *	54312	5412	51432	51234 *
	bout 14	43215 *	453	54123	45123 *	25413
	bout 15	21345	23154	2541	12345 *	45123 *
	bout 16	15423	51432	5412	51423	12345 *
	bout 17	23154	21543 *	2341	51243	23451 *
	bout 18	54321 *	325	54321 *	34512 *	45123 *
	bout 19	12543	54321 *	54123	12543	51234 *
	bout 20	21345	51423	34152	21543 *	51234 *
	bout 21	54321 *	34251	21543 *	52341	45123 *
	bout 22	32154 *	3542	21543 *	23154	451
	bout 23	12543	341	23154	51432	54312
	bout 24	21543 *	34521	21354	21354	23154
	bout 25	12345 *	51234 *	21543 *	54312	45123 *
	bout 26	32154 *	435	23154	51423	23541
	bout 27	43215 *	1534	21543 *	12354	51234 *
	bout 28	12345 *	21543 *	21534	54132	34512 *
	bout 29	12345 *	32154 *	23154	23154	51234 *
	bout 30	41235	45321	21543 *	54123	21543 *
	bout 31	21543 *	43215 *	23154	34521	21534
	bout 32	12345 *	54321 *	21543 *	12354	51234 *
	bout 33	45321	45132	54321 *	12345 *	45123 *
	bout 34	12345 *	43215 *	21543 *	23451 *	54123
	bout 35	12345 *	15432	23154	23451 *	12354
	bout 36	43251	15432	21543 *	34251	54123
	bout 37	51243	15432	21543 *	12345 *	51243
	bout 38	15432	32154 *	32154 *	34512 *	54123
	bout 39	12354	43215 *	12354	54123	45123 *
	bout 40	32145	43215 *	32154 *	54123	45123 *
bout 41	342	21543	21543 *	23451 *	12345 *	
bout 42	321	32154 *	54123	34512 *	32541	
bout 43	23451 *	45321	15432	23451 *	34512 *	
bout 44	43215 *	43215 *	23145	45123 *	423	
bout 45	51234	54321 *	15432	23451 *	45123 *	
bout 46	21534	45132	21543 *	45123 *	32451	
bout 47	54321 *	43215 *	42513	51432	12345 *	
bout 48	12543	15432	45123 *	34512 *	54123	
bout 49	32451	34152	54132	43215 *	54231	
bout 50	21345	23154	15432	32145	54123	
bout 51	52134	43215 *	21543 *	23541	54123	
bout 52	54321 *	54312	14325	43521	13	
bout 53	51234	45213	54123	21543 *	34512 *	
bout 54	21345	52143	32415	54213	21345	
bout 55	12345 *	54321 *	43215 *	43251	54123	
bout 56	53214	34125	12345 *	45123 *	43215 *	
bout 57	51243	51243	43215 *	23451 *	43	
bout 58	51234	351	21534	12345 *	32514	
bout 59	41532	12543	1345	12534	12345 *	
bout 60	52341	32154 *	43215 *	123	32541	
bout 61	53214	21354	21543 *	23451 *	45132	
bout 62	32145	32154 *	12543	23451 *	32514	
bout 63	21345	54321 *	51432	23154	45123 *	
bout 64	54321 *	15432	54321 *	12345 *	51234 *	
bout 65	23154	21543 *	21543 *	23145	51234 *	
bout 66	53241	54321 *	51243	23451 *	12345 *	
bout 67	32145	12543	1243	51234	34512 *	
bout 68	32154 *	21543 *	43215 *	23451 *	12354	
bout 69	32154 *	12	15432	23451 *	34512 *	
bout 70	34512 *	52143	43215 *	23145	31254	
bout 71	12345 *	54321 *	45321	51234	42351	
bout 72	12345 *	35124	21543 *	45123 *	12345 *	
bout 73	34512 *	12543	15432	23451 *	34512 *	
bout 74	15432	32154 *	32154 *	54123	23451 *	
bout 75	34512 *	54321 *	54321 *	34512 *	51234 *	
bout 76	32145	435	43215 *	23451 *	34512 *	
bout 77	32154 *	21543 *	43215 *	45123 *	23451 *	
bout 78	12354	54321 *	21543 *	23451 *	34512 *	
bout 79	54231	21354	43215 *	23451 *	23451 *	
bout 80	34512 *	54321 *	43215 *	34512 *	23145	

Experiment 2

		indiv. 6	indiv. 7	indiv. 8	indiv. 9	indiv. 10
Phase 2	bout 1	54123	1354	35412	152	53142
	bout 2	54213	45132	15432	12345 *	15342
	bout 3	54312	4351	34521	14523	51234
	bout 4	12534	54321 *	32154	32451	5214
	bout 5	54123	415	54312	51243	54213
	bout 6	54312	51432	34152	54132	1523
	bout 7	54132	32415	54321 *	54123	21543
	bout 8	125	51342	41352	54321 *	14532
	bout 9	54321 *	23154	23415	51423	1513
	bout 10	54312	51234	21543	51432	15432
	bout 11	54321 *	25413	34251	54123	15432
	bout 12	125	15324	15432	54123	2314
	bout 13	12543	51234	12543	15423	23415
	bout 14	512	32145	25143	32154	213
	bout 15	12345 *	45312	54321 *	21453	2341
	bout 16	54312	15234	34215	43215	21345
	bout 17	43512	51342	51243	21543	12345 *
	bout 18	54312	121	54321 *	54123	15
	bout 19	15432	51324	32154	21543	54321 *
	bout 20	12543	15324	12543	54123	12345 *
	bout 21	12354	43152	51342	51243	12345 *
	bout 22	54321 *	51324	54321 *	51423	13452
	bout 23	54321 *	52341	54321 *	12543	23451
	bout 24	12345 *	51234	12345 *	12354	12354
	bout 25	12345 *	23145	51432	54132	21534
	bout 26	12345 *	54321 *	54123	52143	51432
	bout 27	54321 *	54321 *	12354	24315	54123
	bout 28	12345 *	51234	54321 *	15234	52341
	bout 29	54321 *	53214	54321 *	15423	12345 *
	bout 30	54321 *	54321 *	54132	51234	34521
	bout 31	54312	54321 *	54132	54321 *	45123
	bout 32	54321 *	54321 *	54321 *	15234	41235
	bout 33	54321 *	54321 *	12453	51432	12534
	bout 34	54321 *	54321 *	54321 *	12345 *	54321 *
	bout 35	54321 *	54321 *	15432	54321 *	54123
	bout 36	54321 *	54312	13254	32145	43215
	bout 37	54312	54321 *	54321 *	54321 *	12345 *
	bout 38	54312	34215	43215	23154	12345 *
	bout 39	54321 *	54123	12543	54321 *	52341
	bout 40	54321 *	34512	52314	54321 *	43215
bout 41	12	54321 *	51234	1234	23451	
bout 42	1235	54321 *	12543	51432	43215	
bout 43	54321 *	54321 *	51234	42135	41235	
bout 44	152	54312	15432	52134	12345 *	
bout 45	54321 *	31524	54321 *	31524	43215	
bout 46	54312	54321 *	43215	54321 *	54321 *	
bout 47	51432	54321 *	512	54321 *	12534	
bout 48	23451	54321 *	54321 *	812	21354	
bout 49	54123	21345	541	43521	43215	
bout 50	45	32514	54321 *	54321 *	12543	
bout 51	51234	152	54321 *	21345	13452	
bout 52	12345 *	54321 *	54312	51234	21345	
bout 53	542	43512	15423	51234	51234	
bout 54	54321 *	54321 *	15432	15432	32145	
bout 55	54321 *	54321 *	15432	32154	54123	
bout 56	54312	21345	54321 *	54123	51234 *	
bout 57	23451	15432	15432	12345 *	23451	
bout 58	21543	123	15432	54321	51234	
bout 59	54321 *	15432	15432	12435	12345 *	
bout 60	12345 *	531	54312	54321 *	51234	
bout 61	23451	12354	12543	123	51234	
bout 62	54123	43521	15432	43215	51234	
bout 63	54312	125	15432	15423	23154	
bout 64	54321 *	54321 *	15	54321 *	51432	
bout 65	21543	43215	21543	54321 *	51234	
bout 66	12345 *	43215	51243	43215	51234 *	
bout 67	43215 *	15432	12543	543	12345 *	
bout 68	15432	23451	54321 *	54321 *	51234	
bout 69	21345	43512	54321 *	54312	23451	
bout 70	51	34512	13425	51234	51234	
bout 71	15432	21534	541	15432	12345 *	
bout 72	54123	54312	51243	54312	12345 *	
bout 73	12	12345	15432	15432	12345 *	
bout 74	15432	51342	15432	15432	12345 *	
bout 75	15432	23451	12	15432	21345	
bout 76	25431	35142	15234	53412	12345 *	
bout 77	12543	23154	51234	15432	13245	
bout 78	15234	12534	15432	43215	51234	
bout 79	15432	15432	15	43125	51432	
bout 80	54321 *	53124	12543	12543	15432	

Experiment 3

		indiv. 11	indiv. 12	indiv. 13	indiv. 14	indiv. 15
Phase 2	bout 1	514	32	124	54132	21345
	bout 2	123	1532	42315	45123	12354
	bout 3	32154	53	45132	54321 *	51234
	bout 4	54123	1345	5413	43512	12345 *
	bout 5	43125	1323	54	12453	12345 *
	bout 6	51423	432	152	45123	12345 *
	bout 7	514	3125	23145	21543	51234
	bout 8	15432	3125	24153	43521	12345 *
	bout 9	54321 *	53421	54123	514	12345 *
	bout 10	34521	1513	54	54123	12345 *
	bout 11	1345	3121	123	123	54123
	bout 12	34512	54321 *	25314	45312	23451
	bout 13	54312	54321 *	32145	45231	51234
	bout 14	54321 *	54321 *	34125	43215	12345 *
	bout 15	132	54321 *	15234	21345	154
	bout 16	54312	5315	23154	45123	5421
	bout 17	54321 *	51234	34251	12345 *	12345 *
	bout 18	12345 *	12354	15342	15432	25134
	bout 19	123	15432	54321 *	45231	45123
	bout 20	54321 *	15432	15342	21543	142
	bout 21	12345 *	51432	53214	54312	5124
	bout 22	15342	15243	54321 *	45123	34
	bout 23	12345 *	51432	31245	45123	34512
	bout 24	12543	54321 *	54321 *	52314	1235
	bout 25	3125	51243	54321 *	31254	12345 *
	bout 26	54321 *	12345	23415	21354	23451
	bout 27	54321 *	54321 *	32154	12354	12345 *
	bout 28	54321 *	54321 *	15432	54123	1234

Fig. S3. Flower visitation sequences (excluding revisits to the same flower). For each bee (columns 1-15), visitation sequences are sorted in chronological order (bouts 1-40: phase 1; bouts 41-80: phase 2). Numbers 1-5 in each row refer to the spatial location of each flower in the array (see Fig. 1): hence a bee moving clockwise round the pentagonal array in order starting with a visit to flower 1 would be recorded as '12345'. Colour codes (44 combinations of font and cell colours) indicate the sequences observed significantly more often than expected by chance during phases 1 and 2 (multinomial test with a random probability 0.0083: $p < 0.05$). *: sequences minimizing travel distance (phases 1 and 2); †: sequences maximizing initial rate of food intake (phase 2). Incomplete sequences, in which at least one of the five flowers was not visited, are indicated using a red font and white cell background (these sequences were not included in analyses).