

This is a supplementary material for the paper:

1 **Peaceful behaviour: a strategy employed by an obligate nest invader**
2 **to avoid conflict with its host species**

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14 **Contents:**

15 Table S1; Table S2; Figure S1; Figure S2; Video S1; Video S2; Video S3

16
17 **Table S1.** Absolute numbers and percentage of Between-species and Within-species observations
18 annotated from video-samples in closed arenas. Data is presented for hosts (*C. cyphergaster*) and
19 inquilines (*I. microcerus*), and their respective castes.

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Group observed	Number of focal animals (n)	Observations	
		Between-species	Within-species
HOSTS (<i>C. cyphergaster</i>)	10	199 (32%)	421 (68%)
Host workers	5	106 (34%)	204 (66%)
Host soldiers	5	93 (30%)	217 (70%)
INQUILINES (<i>I. microcerus</i>)	10	125 (20%)	495 (80%)
Inquiline workers	5	25 (8%)	285 (92%)
Inquiline soldiers	5	100 (32%)	210 (68%)
TOTAL	20	324 (26%)	916 (74%)

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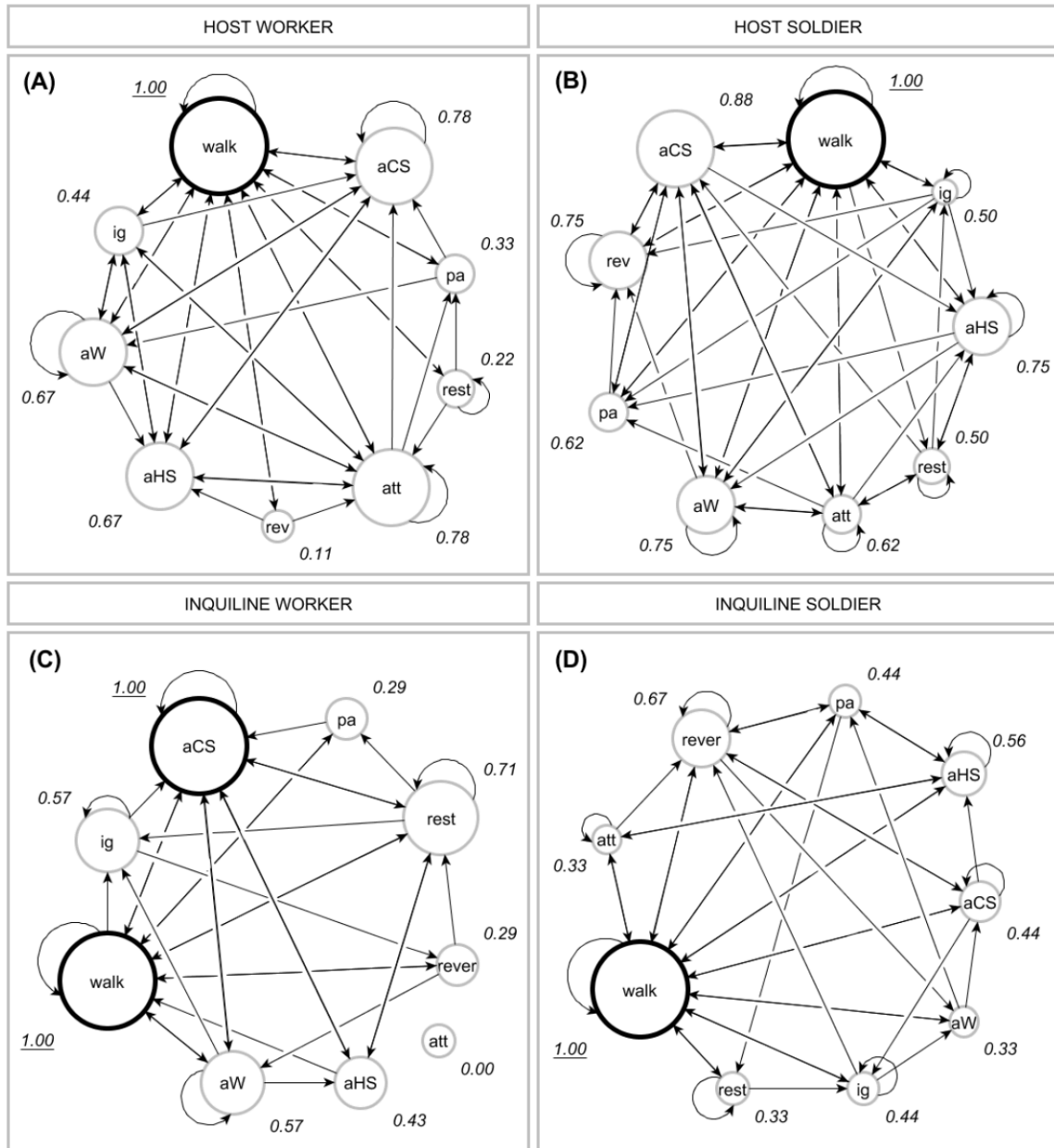
23 **Table S2** Adjacency matrices containing the behavioural change for each caste of hosts (*C. cyphergaster*)
 24 and inquiline (*I. microcerus*). The data was used to extract centrality measures and draw the networks in
 25 yED (Abbreviations: walk=walking; rest=resting; aW=antennating wall; aCS=antennating nestmate;
 26 aHS=antennating non-nestmate; ig=ignoring; pa=bypassing; rever=reversing; att=attacking).

Adjacency matrix - <i>Constrictotermes cyphergaster</i> (worker)									
	aCS	aHS	aW	att	ig	pa	rest	rever	walk
aCS	4	1	3	0	0	0	0	0	8
aHS	1	0	0	3	1	0	0	0	3
aW	3	1	16	2	1	0	0	0	3
att	3	1	3	11	1	1	0	0	6
ig	1	1	1	1	0	0	0	0	2
pa	3	0	1	0	0	0	0	0	2
rest	0	0	0	1	0	1	1	0	2
rever	0	1	0	1	0	0	0	0	1
walk	1	3	3	9	3	3	3	3	26

Adjacency matrix - <i>Constrictotermes cyphergaster</i> (soldier)									
	aCS	aHS	aW	att	ig	pa	rest	rever	walk
aCS	2	1	4	1	0	1	0	1	7
aHS	0	2	1	0	0	1	2	0	3
aW	2	0	6	2	3	0	0	1	1
att	2	1	1	1	0	1	1	0	2
ig	0	2	1	0	2	1	0	1	4
pa	1	0	0	0	0	0	0	2	3
rest	2	1	0	1	2	0	15	0	0
rever	1	0	0	0	0	0	0	1	7
walk	6	4	3	4	4	2	3	3	24

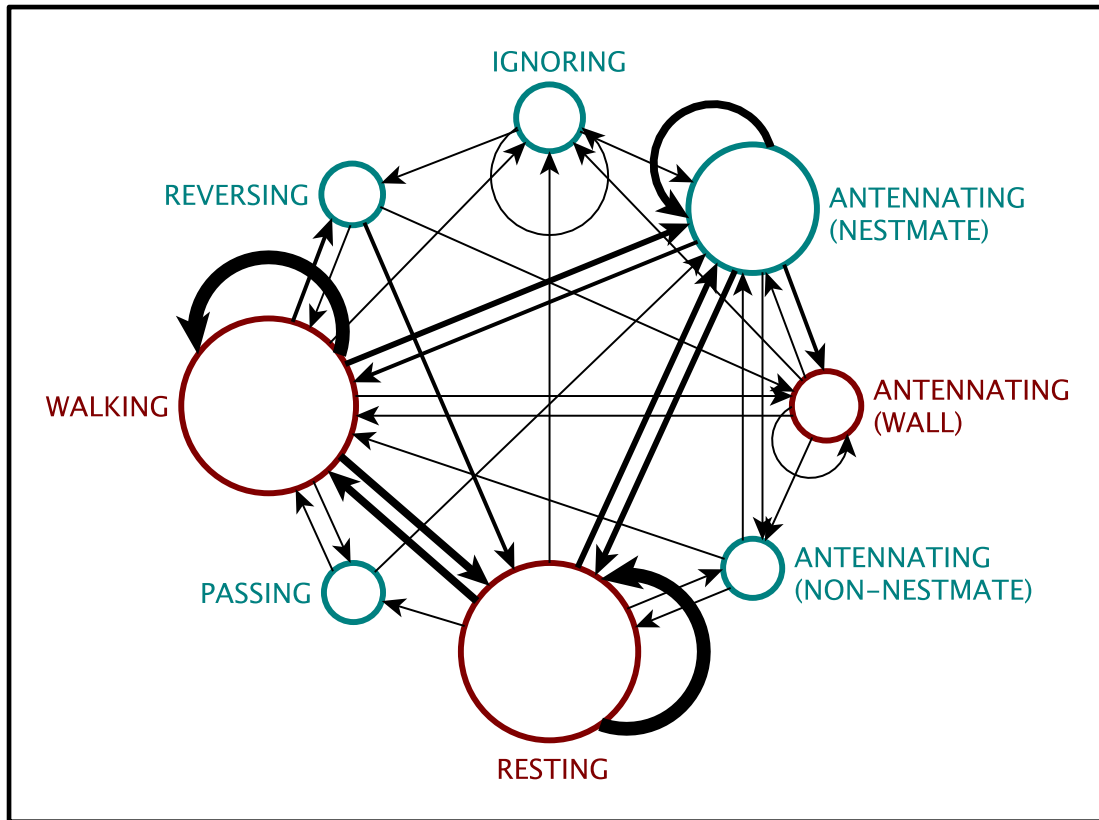
Adjacency matrix - <i>Inquilinitermes microcerus</i> (worker)									
	aCS	aHS	aW	ig	pa	rest	rever	walk	att
aCS	11	1	3	0	0	9	0	6	0
aHS	1	0	0	0	0	1	0	1	0
aW	1	1	2	1	0	0	0	2	0
ig	1	0	0	2	0	0	1	0	0
pa	1	0	0	0	0	0	0	2	0
rest	7	1	0	2	1	24	0	11	0
rever	0	0	1	0	0	3	0	1	0
walk	8	0	1	1	2	12	3	25	0
att	0	0	0	0	0	0	0	0	0

Adjacency matrix - <i>Inquilinitermes microcerus</i> (soldier)									
	aCS	aHS	aW	att	ig	pa	rest	rever	walk
aCS	5	2	0	0	1	0	0	1	10
aHS	0	1	0	2	0	1	0	0	3
aW	1	0	0	0	0	1	0	0	2
att	0	1	0	12	0	0	0	2	5
ig	0	0	1	0	1	0	0	1	4
pa	0	1	0	0	0	0	2	2	4
rest	0	0	0	0	1	0	4	0	3
rever	2	0	2	0	0	3	0	2	5
walk	11	2	1	6	4	4	1	6	27



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29 **Figure S1.** Behavioural profiles observed for each caste (with scores of centrality measure). Nodes
 30 represent behaviours performed by individuals, whereas connecting edges (arrows) represent
 31 behavioural changes occurred from one behaviour to another. Behaviours with the highest influence othe
 32 n network are highlighted with thicker node contours. Node size was adjusted using calculated centrality
 33 measures (scores) to visually represent the degree of influence exerted by each behaviour upon the
 34 profiles. (Abbreviations: walk=walking; rest=resting; aW=antennating wall; aCS=antennating nestmate;
 35 aHS=antennating non-nestmate; ig=ignoring; pa=bypassing; rever=reversing; att=attacking).



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37 **Figure S2.** Behavioural change for inquiline workers: nodes represent behaviours performed by
 38 individuals, whereas connecting edges (arrows) represent behavioural changes occurred from one
 39 behaviour to another. Node size was adjusted using behavioural frequencies extracted from the
 40 annotation. The width of edges indicate how frequently a given behavioural change occurred.
 41

42 **Video S1**

43 **S1_snapping.mov**

44 This video was recorded in lab conditions with a fixed individual of *Termes* sp.. It shows the mechanism of
 45 snapping, also present in *I. microcerus* and other termite species with soldiers provided of slender
 46 mandibles.

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48 **Video S2**

49 **S2_snapping2.mov**

50 This video was recorded in lab conditions with a free individual of *I. microceus* in the presence of *C.*
 51 *cyphergaster*. It shows snapping events performed by the inquiline soldier of in retaliation to host threats.

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53 **Video S3**

54 **S3_defecation.mov**

55 This video was recorded in lab conditions with individuals of *I. microceus* and *C. cyphergaster* in
 56 experimental arenas. It shows the aggressive nature of host-inquiline encounters and some of the evasive
 57 behaviours performed by inquilines as response. Markers were included to highlight when aggressive
 58 interactions happened. The defensive mechanism using defecation is the depicted in the footage with
 59 several events.