Table 9. The responses of foraging *Oecophylla longinoda* workers to paper squares (5 × 5 cm) experimentally spotted with contents of 20 hindguts dissected out of their own nestmates (control) and members of an alien colony (experimental). The numbers are the average numbers of responses over 4–5 successive 2-min intervals (with standard deviation). Five replicated experiments (I–V) were conducted, each with its own set of test papers

Experiment	Control	Experimental	*P*
A. Mean number of workers stepping onto paper			
I	19.0 ± 11.9	22.4 ± 11.2	–
II	7.2 ± 6.8	13.7 ± 6.8	–
III	15.5 ± 6.9	14.0 ± 3.9	–
IV	12.7 ± 5.7	16.0 ± 4.1	–
V	16.1 ± 9.5	18.5 ± 8.1	–
B. Percentage of workers showing aggressive display			
I	30.2 ± 21.1	53.9 ± 12.1	$0.05 < p < 0.1$
II	18.4 ± 13.5	60.7 ± 11.9	< 0.01
III	24.1 ± 16.9	64.2 ± 9.5	< 0.01
IV	44.1 ± 11.4	48.4 ± 8.6	> 0.1
V	50.1 ± 17.7	54.8 ± 12.9	> 0.1
C. Percentage of workers inspecting spots			
I	30.6 ± 15.9	52.9 ± 4.3	< 0.02
II	18.9 ± 23.1	44.1 ± 32.7	> 0.1
III	13.9 ± 11.5	26.3 ± 16.0	> 0.1
IV	41.1 ± 19.7	41.5 ± 29.9	> 0.1
V	35.6 ± 5.0	43.6 ± 12.7	> 0.1

anal spots did indeed originate from the rectal vesicle. We then dissected 20 rectal bladders from workers of a foreign colony and squeezed their contents onto the surface of a 5 × 5 cm paper square in a pattern of randomly distributed spots. A second paper square was similarly spotted with the rectal sac contents of 20 workers from the home colony. One to two days later, the two squares were laid simultaneously on the floor of the arena of the home colony, 30 cm from each other, and the responses of nearby foraging workers were noted. The results of five replications are presented in Table 9. No significant difference was found in the initial attractiveness of the two kinds of squares (section A, Table 9). However, the alien marks induced a higher frequency of hostile posturing (B) as well as closer inspection (C). In all five replications the alien spots induced greater amounts of posturing; the difference was significant at the 99% confidence level in two of the replications and significant at the 90% confidence level in a third. Similarly, the alien spots were inspected by a higher percentage of workers in all five replications, with the difference being significant at the 98% confidence level in one.

The differences in responses to artificially applied spots were not as great as those observed in the earlier experiments conducted with natural spots (Ta-