

Table 8. The responses of foraging *Oecophylla longinoda* colonies to unmarked paper squares and similar squares marked by their own nestmates and members of an alien colony. The numbers are the average counts of responses over 4–5 successive 2-min intervals

Kind of square offered	Stepping onto square	Repelled by square	In aggressive display	Inspecting anal spots
Control 1: fresh paper	20.2	0.2	0.2	—
Control 2: A paper to A colony	20.3	0	0.3	0.8
Control 3: B paper to B colony	9.5	0	0.2	1.2
Experimental 1: B paper to A colony	12.0	2.7	7.7	8.7
Experimental 2: B paper to A colony	12.5	2.2	4.2	6.0

Control 2. A square previously marked by colony A was reintroduced to colony A in order to measure the response of colony A to its own pheromone.

Control 3. A square previously marked by colony B was reintroduced to colony B in order to measure the response of colony B to its own pheromone.

Experimental 1. A square previously marked by colony B was introduced to colony A to note the response of A to an alien colony's pheromone; the first of two identical tests.

Experimental 2. A repetition of experimental 1 above, differing only in that a second square marked by B was introduced to A; the second of two identical tests.

The data, summarized in Table 8, reveal in an unequivocal fashion that the *Oecophylla* workers were able to distinguish the deposits of alien colonies. They responded with a higher frequency of initial aversion and aggressive displays, and their attention was directed to the anal spots themselves in so consistent a manner as to support the hypothesis that at least some of the territorial pheromone is contained in these droplets.

Furthermore, the pheromone is persistent. The same intensity of response to an alien square in aversion and aggression display was obtained 12 days after the square had been removed from the arena of the alien colony.

Experiments were next designed in an attempt to localize the anatomical origin of the territorial substances. When the *Oecophylla* were fed honey water dyed red with Azorubin S (Chroma), the dye accumulated in the hindgut after several days and then began to appear in substantial quantities in the anal spots. Since the dye was at this time almost exclusively limited within the body to the hindgut, we concluded that at least some of the contents of the