



Fig. 12. Anal spots deposited by *O. longinoda* workers on a paper surface of the foraging arena. Experiments have shown that the spots contain a true territorial pheromone

of experiments, we partly covered the floor of a foraging arena with 8×13 cm index cards, allowing the ants to deposit drops on them for periods of 4–7 days. Then one card was replaced with a fresh card and left in position with the other, previously anal-spotted cards for 48 h. The rate of deposition of this and three adjacent cards was noted during the 48-h period. In six replications, with the new card being placed in different positions each time, the rate of anal-drop deposition on the new card always increased more than it did on the adjacent cards, usually by 20 percent and sometimes in excess of 100 percent. The probability that the result can be obtained by chance alone is less than 0.001. Thus the ants appeared to be spreading the fecal material more or less uniformly over their home range.

Since we had previously noted that *Oecophylla* responds rapidly to a newly available terrain by increased trail laying and recruitment of nestmates onto the new area, the next experimental series was designed to test whether a change of the anal spotting can alter the behavior. The following experimental procedure was used. For several weeks a colony was permitted access to an arena, the paper floor of which was heavily marked with anal spots (mean = 165.2 spots/ 25 cm^2). For the control test the arena was disconnected from the nest tree and all ants were removed from the arena and returned to the tree. After