



Fig. 14. The emigration of an *Oecophylla longinoda* colony to a new nest tree in the laboratory. The data given are the numbers of individuals of various classes carried by major workers onto the nest tree

From this beginning the colony traveled across in a fixed marching order (Fig. 14). After the major workers made the new leaf nests secure with the aid of larvae, they carried an increasing number of older larvae and pupae, succeeded by a rising proportion of minor workers and finally by other major workers. At its height the parade closely followed a trunk trail. Additional recruitment through antennation and trail laying continued throughout the remainder of the emigration but at a lower overall intensity. Thus emigration was achieved through a combination of recruitment and physical transport.

Many of the minor workers walked to the new nest sites. Some showed a curious hesitation in transit, traveling back and forth on the trunk trail over extended periods of time without making forward progress. On one occasion, we observed 27 minors simultaneously pacing up and down a 90 cm stretch of the trail; most of these miniature individuals covered stretches of 40 cm or longer before turning back to repeat the process. On several occasions individuals appeared to be laying odor trails. We cannot be sure that a pheromone was being deposited, but the overall behavior of the minors was distinctive enough to suggest that they were reinforcing the odor trail. It is possible that their hesitancy represents an adaptive response as part of the division of labor within the colony. Although the minors cannot carry larger brood and nestmates nearly as efficiently as their major nestmates, they can contribute to the reinforcement of the trunk trail.

Finally, the queen always left the old nest only after a large part of the remainder of the colony had emigrated. She traveled under her own power but was covered throughout by a dense retinue of major workers. Other observations