

out, but those which the brush touched were injured by the dichloromethane. Although there was great excitement on the nest, at no time was there any organization into a raiding mass; instead, each ant followed the trail singly. A dichloromethane solution made with *F. p. nitidiventris* workers caused no reaction at all.

On July 6, 1967, a successful raid on *F. pf. nitidiventris* was induced. Several days previously part of a colony had been dug and placed in a transparent plastic shoe box with a door made at one end. Workers excavated cavities in the soil and established their brood there. The box was placed 6 feet from nest M-26, and the *Polyergus* entrance was watched until ants began coming out. When there were 25 to 30 *Polyergus* circling the entrance (4:20 PM), the *F. p. nitidiventris* door was opened and a pheromone trail was laid to it. Ants followed the brush as the trail was put down on the hard pebbly soil; and, as before, there was no organization into raiding formation but simply excited individuals running along the trail. There were perhaps 25 ants on the trail when the first one reached the box, entered, found a pupa, and started home. Almost immediately 3 others entered and found pupae. Their arrival back at the home nest caused a great outpouring of ants, and soon there were about 100 in the box and as many more on the trail. All of the pupae and larvae were hunted out and removed. When many ants returned without booty, the line of outgoing ants began to thin. The whole raid lasted 25 minutes — 4 minutes to the taking of the first pupae, 16 for removing all of the brood, and 5 more of hunting before giving up.

Immediately after the induced raid the ants started out on one of their own. Two hundred and seventy-two ants took part in this raid, so the colony probably had most of its forces involved in the induced one.

The difference between the induced raid and a natural one lay in the fact that the laid pheromone trail caused excitement and raiding action in individuals, while in a regular raid there was mass action, with a large group of ants leaving the nest together and staying in a compact group as they traveled along.

CONDITIONS UNDER WHICH RAIDS OCCURRED

Polyergus raids on the Reserve took place in the late afternoon but varied in time from colony to colony. The O-26 colony raided early; its mean time for starting a raid was 4:21 PM EST (20 raids), while the Lawn Nest's mean was 5:36 PM (21 raids). Individual raids at 3 other colonies began at 4:50 PM, 5:08 PM and