

to exist there for 10 years (1956-1965); but the main observations concerned a larger colony, located about a mile away on grid 0-26 and known since 1961. Raids of this colony were recorded during two seasons. In 1964, during 50 days of observation in June, July, August, and early September, 29 raids were seen; and in the summer of 1965, during 54 days of observation, 34 raids took place.

#### NEST STRUCTURE AND COLONY SIZE

The structure of the compound nests seemed typical of the slave species *F. p. nitidiventris*, which usually dig a shaft into the ground and then excavate chambers from it at various levels. Shafts may be single or multiple and may extend as deep as 3.5 ft. Entrances to the nest (occasionally there are 2 to 5) may be inconspicuous in the grass or may be surrounded by bare excavated soil.

On August 30 and September 1 (it rained all day August 31) of 1965, one *Polyergus lucidus*-*Formica pallidefulva nitidiventris* mixed colony was dug. This nest lay near the top of a grassy slope in the sandy loam which is common on the Reserve. To judge by a raid seen on July 19, 1965, in which 258 workers took part, it was a medium-sized colony. Thirty-seven chambers were found, extending down to 30 inches and spreading around the central opening for a radius of 8 inches. Because of the lateness of the season, there were no larvae or eggs in the nest; and some of the winged ants had already flown. The *Polyergus lucidus* population consisted of one queen, 291 workers, 299 worker pupae, 115 females, 407 males, and 13 male pupae. The *F. p. nitidiventris* numbered 4,527 workers and 9 worker pupae. Thus the mixed colony contained approximately 5,662 individuals, and the count of 590 *Polyergus* workers (adult and pupae) gave a ratio of 7.7 slaves to each *Polyergus* worker.

#### TYPICAL RAID ACTIVITIES

The 0-26 colony had an almost bare nest area 18 × 18 inches across, because I had dug into it early in 1964. Generally there was only an occasional ant in sight here during the morning and none during the warm midday period. By early afternoon 2 to 5 *Polyergus* could often be seen circling about or running off into the surrounding grasses. Later, as the sun slanted to the west and the nest came into flickering shade, more ants came out and stayed on the nest area, circling and crossing it in a zigzag running movement. Then, typically, there would be an outpouring of ants until they covered the nest. As they milled about, they explored into the surrounding grasses for several inches. Gradually the group would begin to favor one side, pushing into the grasses a little farther but always running