

released and allowed to escape uninjured. These blacks rounded up their fellow workers and queens and reentered their nests just as soon as the reds deserted them, whether this was the next day or several days later. A few ants would carry their fellows back in the typical manner of transportation, with the transported ant curled up beneath the carrier. The nest openings were again plugged so thoroughly that often they could not be detected even though their locations had been marked previously.

*Sanguineas* took complete possession of the raided nests and individuals remained overnight there until the raiding was over. It was found that some blacks also stayed in the nest in seeming peacefulness. These could not be blacks of the mixed *sanguinea-fusca* home nest, for they were never seen to take part in a raid.

*Trails.*—Each *sanguinea* colony had certain definite well-established trails which exploring parties followed as far as possible before deviating off in search of a new colony. These trails were not, as is the case with *Camponotus*, visible pathways, but they seemed to be a habit of procedure. Probably odor played a part in their maintenance, but there was no slavish following of a line as is found in *Crematogaster*, nor did rain in any way weaken the trail. The map shows the main trails which were traversed day after day until the investigator could pick up the line at a given point and know just how the ants had come to that place from the home nest: for, example, the Pump trail of the Dock Nest always crossed the sidewalks just before they joined. (See map.) It was only after Nest No. 9 had been discovered late in the summer that the trail was shifted so that it crossed the walk to the west of the previous crossing. In a similar fashion, the Castle trail of the Walk Nest could always be picked up just to the north of the walk leading to the Castle. The way in which deviations occurred from these trails is rather interesting. After Nest No. 22 had been raided by the Dock Nest, an exploring party started out east from it and discovered No. 23. Next day the line swerved to the east before it reached No. 22 and all loot brought in from No. 23 followed this new branch which then straightened the trail and shortened the distance traveled to the home nest. Other such instances of straightening the trail were found during the summer.

When some ants from the Walk Nest located Nest No. 10, a strong line was already exploring along the Castle trail. At 11:45 a great disturbance was noticed on the side walk where the branching to No. 10 occurred. Reds were mauling fellow reds, and it seemed as if there were difficulty in getting the line of march to turn to the right toward No. 10. By 12:30 enough ants had been deflected to the new trail branch to bring back a line of pupae from No. 10, but the main Castle trail had not been abandoned. At 5:15 the Castle column suddenly uncovered Nest No. 11, which surprisingly enough lay beneath the regular trail which had been traversed for weeks. Evidently it had been well plugged. At 5:38 the first pupae were brought out, and now ants were carrying pupae from two nests (Nos. 10 and 11). The ants of the remaining Castle trail, still exploring in the grass beyond, had meantime located Nest No. 12; and by 5:45 they were bringing pupae