from one was often paralleled by a weak raid from the other. In a similar fashion one nest might start early in the morning or work late at night, while the other showed only scant, dilatory action. One interesting instance of "heat trap" occurred at the Walk Nest. On August 13, workers coming in from the Castle trail at 11:30 seemed to "go crazy" as they emerged from the shaded trail into the full sun of the nest area. Movements became fast and jerky; individuals climbed to the top of grass blades, then down and up others, thus avoiding the ground. They were running at random, carrying larvae, pupae, and black or red workers indiscriminately, and they did not seem to be able to get down to the nest openings. At noon the next day, the same peculiar process was repeated. This time, temperature readings were taken. The soil surface of the nest in the sun was 45° C.; one inch above the soil at the grass blade level, the temperature was 38° C.; in the shade near by, the soil surface was only 31° C. The ants on the trail were behaving normally in a perfectly normal temperature, but the soil of the sunny nest area had reached a temperature above their usual toleration, forcing them up onto the grass blades. Each time they came down to the ground to enter the nest they were forced up again away from the excess heat, until the whole area became covered with the returning ants unable to descend into the nest. However, within an hour most of the ants did succeed in penetrating the openings and the noon lull occurred as usual.

NUPTUAL FLIGHTS

The emergence of *sanguinea* males and females occurs near the beginning of the raiding season. The only series of flights which were accurately observed and recorded on Gibraltar were those of 1939. They showed quite clearly that flight does not occur in one splendid climax of masses rising into the air but may drag out over a number of days. The first flight was observed July 19, 1939, at 9:15 A. M., by C. H. Kennedy. This emergence at the Walk Nest was discovered when the first raiding trail of the year was traced back to the home nest. The morning had been clear and bright at 8 A. M., but by 9:15 a haze had covered the entire sky and a dead calm existed. The air was pleasantly warm. Activity was at its height when the nest was discovered. Numerous winged females were darting about on the ground or standing in clusters of two to five, at nest entrances or under bits of cover. By 9:30 some females were attempting to fly. They would climb grass blades, poise for a moment, then suddenly spread wings and take off. Some flew 150 feet at two to six feet above the ground before being lost to sight. Others rose almost straight up to the tree tops. Apparently the flight was at random, merely a dispersion out into the air. Almost all the winged ants leaving the nest were female; only four males were seen. During the activity many workers were present at nest openings and over the whole area of flight. By 9:40 the seemingly excited *sanguinea* and *fusca* workers were beginning to drag females back into the nest; by 10:00 the flight had decidedly slowed down and, by 10:15, it was practically over for the day, workers as well as winged females having gone back underground.