

mainly of *Amblyopone*, later *Myrmica* and *Monomorium*, was regularly put into the formicaries so that some food was always present. Temperatures were fluctuating daily between 20 and 30°C with occasional peaks of 35° in the afternoon. Dissections of females and workers followed Alloway et al. (1982).

## RESULTS

### a) Identification

Samples of colony 1 and 2 were identified as *Sphinctomyrmex* cf. *steinheili* by R. W. Taylor. Col. 3 specimens look identical to those from col. 1, being entirely dark brown, whereas all the workers and queens of col. 2 are light brown in coloration. Col. 2 specimens also appear somewhat more sculptured than those of col. 1 and 3, having a very fine pattern, between the foveolae of dorsum of head and thorax, as compared to col. 1 and 3 specimens in which these spaces are smooth and shining. Colony 2 thus might represent a different taxon. The biological data, however, are consistent for all three colonies.

### b) Functional polygyny

A total of 20 ergatoid females (Col. 1: 6; Col. 2: 5; Col. 3: 9) and 17 workers were dissected mostly soon after collecting, during an egg-laying period. All ergatoids had the receptacles full of sperm, except one specimen from col. 1 which had enlarged ovaries with developing oocytes, and conspicuous *corpora lutea*, but either was unmated or had run out of sperm, and in three specimens from col. 3 the spermathecae were empty. In the latter, the ovarioles were only faintly visible, very short and translucent, and no corpora lutea could be detected. Presumably they had never mated.

The remaining sixteen females were all fully fertile, having ovarioles which, when straightened out, were as long as both gaster and petiolus of the females. Growing and mature oocytes, and corpora lutea indicating previous egg-laying, were present in most of the ovarioles. This was observed in all except four females of col. 3 dissected in June 1988 (seven months after the last eggs had been laid in this colony), where no growing oocytes were found, although corpora lutea were still visible. This together with the big egg masses found at the beginning of laboratory observation, clearly indicates that several functional queens were present in each of the 3 colonies, the species thus being polygynous.