

Although colony foundation has never been observed, and the question remains whether or not nomadic life habits occur, Brown (1975) states that "we probably see the early stages of developing army ant lifeways" in the *Cerapachyini*.

Here we report on our observations of a number of *Sphinctomyrmex* colonies in laboratory culture, which confirmed the first observations of brood periodicity. Some experiments revealed a certain degree of prey specificity, prey storage was observed (as in *Cerapachys*—Hölldobler, 1982), and dissections of ergatoid females clearly demonstrated functional polygyny in the species investigated. One colony with workers and queens was kept alive for more than a year.

#### MATERIALS AND METHODS

Three colonies (no. 1, 2, 3) were collected in New South Wales in November, 1987. They were aspirated as completely as possible. Voucher specimens of colonies 1 and 2 were deposited in ANIC, Canberra. Further material is stored in the collecting of A.B., with reference numbers 13628 (col. 1), 13653 (col. 2) and 13684 (col. 3).

Col. 1: 18 Nov. 1987, Hartley Vale, Blue Mountains (ca. 900 m), beneath a rock in relatively humid sclerophyll forest. The colony comprised about 400 adults, including about 20 ergatoid females, and no brood.

Col. 2: 24 Nov. 1987, Megalong Valley, near Mermaids Cave, Blue Mountains (ca. 1000 m) beneath a rock in humid rainforest: 190 workers and 11 ergatoid females, about 100 eggs.

Col. 3: 26 Nov. 1987, Hassans Walls, near Lithgow, Blue Mountains (ca. 950 m), beneath a rock in comparatively dry sclerophyll forest: ca. 80 workers, 9 ergatoid females, and a batch of eggs.

Colony 2 was preserved, and part of its queens and workers were dissected. The colonies 1 and 3 were housed first in Petri dishes of about 12 cm diameter, then transferred to Germany on December 14/15, 1987, in PVC-tube-nests (Buschinger and Heinze, 1988). Col. 1 was there placed into a maze as detailed in Fig 1, and col. 3 in a 3-chambered formicary (Buschinger, 1974). Water was provided in glass tubes, trapped behind cotton plugs, in one chamber of both the formicary and the maze. Foreign ant brood, pupae and larvae