processionalis species group, which is not yet revised. The species, which is morphologically close to *L. mutabilis*, is presumably undescribed. In the following report, this species is referred to as *Leptogenys* sp. 1.

Methods

All observations on colonies of *Leptogenys* sp. 1 were made in the field near the University of Malaya's Ulu Gombak Field Studies Centre (altitude 220 m, 3°19′32″ N, 101°45′16″ E). The area is covered by lowland dipterocarp forest. Timber extraction has created partially open areas at various locations where bamboos have become dominant (Bishop 1973).

For observations on the nocturnal ants, torch lights and head lamps were used. Two colonies were captured. The bivouac was surrounded by a square metal frame (1.5 m × 1.5 m × 0.4 m) that was dug into the ground. A bridge connected the interior of the metal frame to a metal container (1.5 m × 1.2 m × 0.5 m) that was filled with a dense layer of bamboo, leaves, and branches. Intensive watering of the bivouac released an emergency nest relocation into the artificial nest. One of the captured colonies was killed with liquid chloroform and preserved in 80% ethanol.

Records of the numbers of ants participating in raids or emigrations were taken by counting the incoming and outward-bound ant traffic near the nest entrance for 1 min each in 10 min intervals. For each interval, the rate of prey-retrieving workers out of 100 returning ants was determined. Since the numbers of our observations on emigrations and raids were restricted, we used the median ($\tilde{x}$) together with maxima and minima instead of the arithmetical mean ($\bar{x}$) for the investigated parameters (Sachs 1974). For the statistical analysis of the emigration routes the Raleigh-test (Batschelet 1981) was used.

Results

Nesting behavior

Leptogenys sp. 1 does not exhibit any nest building activities; however, minor enlargements of the nest entrance were sometimes observed. The temporary nests (bivouacs) of *Leptogenys* sp. 1 were localized in subterranean cavities ($n = 19$), in or under decaying plant material, e.g., holes in fallen trees ($n = 6$), or in bamboo groves in hollow spaces in the layer of dead twigs and leaves that reach up to 1 m in depth ($n = 14$).

Examinations of emergency bivouacs that were formed after flooding (Fig. 1), as well as examinations of nests in large artificial arenas filled with plant material, plus the rapid killing of colonies in the field with liquid chloroform revealed the structure of the temporary nests. The ants did not form a distinct large cluster but instead were spread out over an area of about 1 to 1.5 m^2. Most of the workers were distributed over the substrate in several irregularly spaced one-layer groups. Depending on the type of nest material, one of several stories with such layers of ants were formed.

Fig. 1. Emergency bivouac of *Leptogenys* sp. 1 formed in a protected site after heavy rainfall (arrow: cluster consisting of workers and brood)

We also observed small clusters of ants measuring only a few centimeters in diameter. They consisted of adult and callow workers that were sitting upside-down on plant material, etc. Some of these workers held larvae in their mandibles (Fig. 2). The numerous pupae were dispersed throughout the substrate or kept in depressions in the ground where they formed several layers.

Colony size and structure

Workers. The size of our main observation colony was estimated four times during a period of 3 weeks. Each time the activities before and during nest relocations were recorded as described above. The number of workers determined by this method varied between 44700 and 52100 ($\tilde{x} = 46750$). On the 50th day of our observations, the colony was captured and killed with chloroform the following day. Though a considerable number of workers escaped, we nevertheless counted 21809. From observations of the ant traffic in the emigration column and the duration of the nest-movements in four other colonies of *Leptogenys* sp. 1, we also estimated numbers of more than 30000 workers in these colonies.