surfaces allow for rapid surface movement and recruitment to food sources.

2. Associated subordinate *Camponotini* (particularly species of *Camponotus*), which coexist successfully with dominant species through differences in body size, time of activity, and submissive behavior.

3. Climate specialists, which in this case are taxa restricted to hot environments (*e.g., Melophorus, Meranoplus*). These taxa possess physiological (*Melophorus*) or morphological (*Meranoplus*) and associated behavioral specializations which reduce their interaction with *Iridomyrmex*.

4. Cryptic species (mostly small Ponerinae and Myrmicinae), which nest and forage predominantly within soil and litter, and therefore do not interact greatly with other ants.

5. Opportunists (predominantly species of *Rhytidoponera, Tetramorium* and *Paratrechina*), which are unspecialized and poorly competitive species that are often abundant in disturbed habitats.

6. Generalized myrmicines (mostly species of *Monomorium, Pheidole,* and *Crematogaster*), which are unspecialized but highly competitive taxa occurring in most Australian habitats.

7. Large, solitary foragers (in this case larger Ponerinae), whose large body size and low foraging densities suggest that they do not interact strongly with other ants.

For each of the seven functional groups, ANOVA and LSD tests were performed on absolute abundance data from individual pitfall traps, to test for differences between plots. For each plot, species abundances were used to calculate Shannon–Wiener coefficients of diversity (H′ decits), and coefficients of species evenness (J′), defined by H′/log S where S is the total number of species (see Pielou 1975). Bray-Curtis similarity coefficients were calculated for each pair of plots. The coefficients take into account the abundance of shared species, therefore reducing distortion caused by inadequately sampled rare species. Frequencies, rather than total abundances, in pitfall traps were used to reduce the influence of highly abundant species (see Southwood 1978, pp. 432–443).

Species abundances in each trap were then transformed to a six point scale (*i.e.,* 0–5), range standardized, and analyzed using the multivariate analysis package PATN (Belbin 1987a). A Bray-Curtis association matrix of data from individual traps was constructed, and a nonhierarchical clustering strategy (ALOC program, Belbin 1987b) used to generate six groups of trap data, and to identify the ten ant species best discriminating each group. Trap data were then ordinated using hybrid multidimensional scaling (two axes; KYSP and KYST programs, Belbin 1987a), which is considered to be more robust than the widely used, but somewhat unreliable, detrended correspondence analysis (Minchin 1987, Wartenberg *et al.* 1987, Oksanen 1988). KYST was unable to process the entire data set, so analysis was restricted to the first 15 traps of each plot. Correlation coefficients were calculated for the KYST scores of both axes and the abundance of each functional group. ANOVA and LSD tests were performed on KYST scores to test for differences between plots.

Finally, PATN was used to cluster the ant species according to their distribution in traps. An association matrix of the 32 most abundant species (those with a total of 15 or more individuals recorded) was constructed using the TWO STEP program (Belbin 1987a). TWO STEP employs an asymmetric, modified Bray-Curtis similarity measure, avoiding the problem of forming groups that depend largely on species frequency (*e.g.,* grouping rare species simply because of their rarity; Belbin 1980). ALOC was used to generate five groups of species based on this association matrix.

RESULTS

A total of 81 ant species from 24 genera were recorded in pitfall traps, with the richest genera being *Monomorium* (14 species), *Iridomyrmex* (11), *Meranoplus* (8), *Pheidole* (7), and *Rhytidoponera* (5) (Table 1). The most commonly trapped ants were unidentified species of *Iridomyrmex, Monomorium, Pheidole, Melophorus, Solenopsis,* and *Paratrechina* (*minutula* gp.), as well as *Rhytidoponera aurata.*

The overall composition of the fauna (Table 1) is similar to that in other wooded savannas of the region (*cf.* Greenslade 1985, Andersen, in press a, b), with dominant species of *Iridomyrmex* and generalized myrmicines (mostly species of *Monomorium* and *Pheidole*) combined comprising about 70 percent of total ants captured in traps. Hot climate specialists (up to 16% total ants) and cryptic species (up to 27% total ants) were also locally abundant. Although the fauna contains many tropical taxa, including species of *Oecophylla, Aenictus, Glamyromyrmex, Quadristruma, Bothroponera, Leptogenys* and *Odontomachus,* none of these were frequently recorded, and the overall faunistic composition bears a strong resemblance to that in arid central and semiarid southern Australia (see Greenslade 1978; Greenslade & Halliday 1983; Andersen 1983,