

this applies to workers from the Yenne site, although our experience indicates that the overall discrimination for specimens from elsewhere would not be much different from this. The required measurements are: minimum frons width (F), post-petiole width (PPW) and the number of hairs on the petiole (H).

$$Cv \text{ score} = 53.10 F - 33.09 \text{ PPW} + 0.42 H - 9.69$$

M. scabrinodis < -0.20 > *M. vandeli*. Confidence 99.53%

These measurements were used as a practical aid to our field study. Because of the small amount of variation among workers within colonies, it can be demonstrated that if 3 workers from the same nest are available, then that colony can be identified between *M. scabrinodis* and *M. vandeli* using these 3 measurements, with a probability of error so small as to be almost a certainty!

DISCUSSION

The method of canonical variate analysis of morphometrics has enabled us, who are not specialist taxonomists, to recognise and assign a name to specimens from a species that had been previously poorly described. Furthermore, we have been able to isolate those measurements that are of most use for the separation of *M. vandeli* workers from *M. scabrinodis*, and *M. vandeli* males from *M. sabuleti* - two sets of discriminations that are impossible to make with confidence by a casual inspection of the ants.

Apart from the larger size, darker coloration, and coarser sculpture of the queens, we find that *M. vandeli* females (both workers and queens) are generally larger than *M. scabrinodis*, with relatively wider heads and post-petioles and much more hair in the peduncle region. These last 2 features are characters of social parasites and led Bondroit (who had only seen a few queens and males, caught flying during a nuptial flight) to speculate that *M. vandeli* might also be parasitic. All our evidence is that the possession of these characters is coincidental; we have excavated many discrete nests that contained only *M. vandeli*, and conclude that this is a perfectly good free-living species.

The males are easily separated from *M. scabrinodis* and *M. sabuleti* by this method, but are rather difficult to separate from *M. hirsuta*, both having long scapes, high pilosity and a wide post-petiole. The workers, like the queens, are fairly easily separated from *M. scabrinodis*, with pilosity and post-petiole width again being important in the discrimination. This general association of so-called parasitic characters in an apparently free-living species is interesting. In our opinion, it tends to support Elmes' view that while these characters are often linked with a set of behavioural characteristics that give the individual a proclivity towards a parasitic mode of life. Parasites without these morphological characters might also occur by chance, as might the morphological characters in non-parasites (Elmes 1978).

We hope to publish a detailed assessment of the ecology of *M. vandeli* elsewhere, but here we take the opportunity to report that it lives in wet grassland. It tends to nest in tussocks of