at honey bait, (e) quickly scatter when disturbed by torch light.

Other Australian species included in the *C. maculatus* group viz *C. spenseri* (CLARK, 1930), *C. extensus* (MAYR, 1876) and *C. oxleyi* (FOREL, 1902) are not considered here because they can be separated from the target species by the integument of the heads of the major workers which are covered with fine punctations and are matte whereas the target species are more smooth and glossy.

Materials and methods

Preliminary to this study A.J.M. examined types of *C. novaehollandiae* in NHMW and *C. villosus* in BMNH and failed to find characters to separate them. We consider them synonymous and use only the name *C. novaehollandiae* in the rest of this paper (see Systematics). In late 2005, A.J.M. and A.A. Simpson collected ants from the vicinity of Broome in Western Australia, between Townsville and Cairns in Queensland and in Western Cape and Natal in South Africa. Bait consisting of 90 % honey and 10 % water was distributed during the last few hours of daylight either by painting it on trees at eye level or by placing rolled up toilet paper dipped in honey on the ground. Beginning around 2100 hrs the baits were visited and the ants from each bait were brushed into vials of 100 % ethanol, and labelled. Whenever a few target specimens could be recognised using a hand lens, attempts were made to find nests (by so doing there was a better chance of collecting a series of worker castes of the species as the baits were often attended by only minor workers). Next day, the previous night's catch was examined under a microscope and searches were made for the nests of target species. Eventually, in the South Australian Museum, a leg was taken from each of the 80 odd specimens of workers for DNA analysis. The remainders of these specimens were glued to points for morphological study and retained as vouchers. African species herein referred to were identified in the Iziko Museum, Cape Town, South Africa or named *Camponotus* A, *Camponotus* D or *Camponotus* E. Voucher specimens of African ants collected for the study were placed in the Iziko Museum.

Morphological analysis

Measurements were carried out using a Mitutoyo 209116 micrometer attached to an Olympus XZ microscope fitted with cross hairs at 20 to 80 ×. Measurements were transmitted to MS Excel 2000 via George Link Wedge (SPLat Controls Pty. Ltd). Measurements of head width, head length, pronotal width, frontal carinae width and mid tibia length were taken from representatives of the groups in the molecular analyses P Q R S T & U (Fig. 3, Tab. 1). Specimens were measured thus: head width HW = maximum distance between head sides with underside of head horizontal; head length HL = distance between anterior margin of clypeus and vertex with both in a horizontal plane; frontal carinae width = maximum distance between carinae ignoring any abrupt curvature at posterior ends with underside of head horizontal; tibia length = overall length of a mid-tibia in horizontal plane; pronotal width PW = maximum width of pronotum in dorsal view.

In "Systematics", measurements are given in mm, as minimum - maximum.

Fig. 1: Photograph of the top of the head of a minor worker of *C. crozieri* sp.n., indicating the occipital carinae.

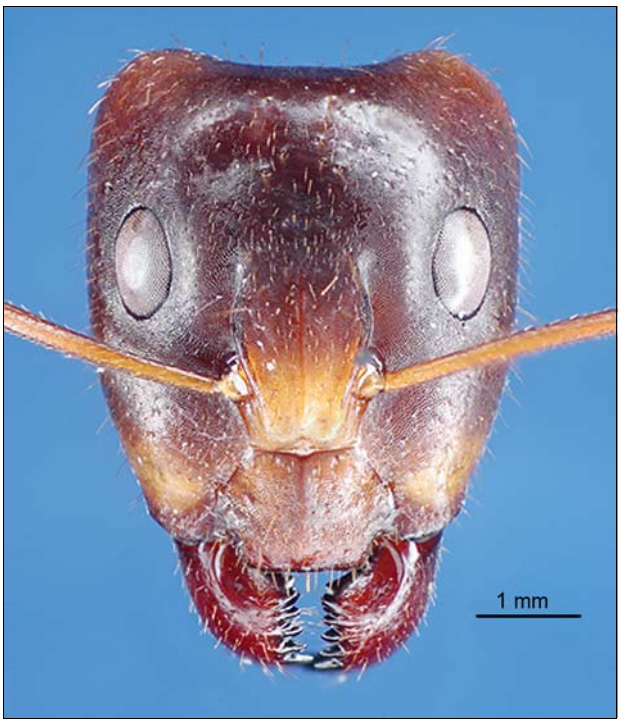

Fig. 2: Photograph of the front of the head of a major worker in the target group showing the sides tapering to the front.

Statistical analyses

Morphological data of the Australian specimens of the *C. maculatus* group were analysed using canonical discriminant analyses in SPSS© version 11.0 (2001). In order to compare overall morphological data with the results from