The following measurements and indices are reported:

CI Cephalic index: HW / HL * 100.

HL Maximum head length in full face (dorsal) view, measured from anterior-most point of clypeal margin to posterior-most point of head.

HW Maximum head width in full face (dorsal) view excluding eyes.

ML Mesosomal length measured from anterior surface of pronotum proper (excluding collar) to posterior extension of propodeal lobes.

MTL Maximum length of mid tibia, excluding proximal part of articulation which is received into distal end of femur.

PH Maximum height of petiole, measured parallel to posterior face, from dorsal-most surface (excluding spines) to ventral-most point of tergite (sternite not included in measurement).

PI Petiolar index: PL / PH * 100.

PL Length of main petiolar body measured perpendicular to posterior face and excluding anterior and posterior ventral collars.

SI Scape index: SL / HW * 100.

SL Length of scape (first antennal segment) excluding basal neck and condyle.

The acronym "ANIC" is used for the Australian National Insect Collection, CSIRO Entomology, Canberra, ACT, Australia, and "TERC" for the Tropical Ecosystems Research Centre, CSIRO Sustainable Ecosystems, Darwin, Northern Territory, Australia.

Results and Discussion

Diagnosis of *Diacamma*

Large black ponerine ants with a conspicuous pocket-like pit on each side of the mesosoma above the front legs and just below the upper surface (Fig. 1: a) and with a pair of spines on the upper surface of the petiolar node (Fig. 1: b). These characters will readily separate these ants from all others in Australia.

Key to Australian species based on workers

1 Dorsal surfaces of pronotum and head with at most very fine, indistinct sculpturing (Fig. 9) (occurring in Northern Territory, Fig. 13). .... *D. leve* CRAWLEY, 1915

– Dorsal surfaces of pronotum and head with distinct rugae (Figs. 3, 9) (occurring in Queensland). 2

2 First gastral tergite with distinct arched rugae (Fig. 4); the dorsal spines relatively widely spaced (Fig. 4); anterior face of petiolar node shorter than dorsal face and separated from it by a distinct angle (Fig. 3). .... *D. australe* (FABRICIUS, 1775)

– First gastral tergite weakly and indistinctly sculptured (Fig. 7); the dorsal spines relatively narrowly spaced (Fig. 7); anterior and dorsal faces of petiolar node similar in length and separated by a broad, rounded angle (however dorsal face longer in some northern samples) (Fig. 6). 3

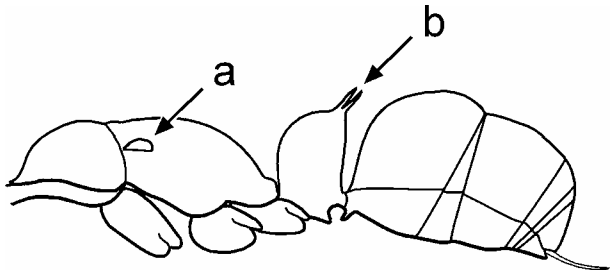

Fig. 1: Diagnostic characters of the genus *Diacamma* in Australia. a – gemmarium; b – dorsal petiolar spines.

Fig. 2: *Diacamma australe*. Head.

3 Smaller species (head length less than 2.8 mm, mesosomal length less than 4.1 mm); entire mandible (except along mandibular teeth) finely striate, occasionally with small scattered fovea (occurring north of Townsville, Fig. 13). .. . . *D. schoedli* sp.n.

– Larger species (head length greater than 2.8 mm, mesosomal length greater than 4.1 mm); anterior region of mandible mainly smooth, basal region weakly striate, elongate fovea present on entire surface (occurring south of MacKay, Fig. 13). ..... *D. colosseense* FOREL, 1915

Diacamma MAYR, 1862

Diacamma MAYR 1862: 718. Type species: *Ponera rugosa* LE GUILLOU, by subsequent designation of BINGHAM 1903: 75.

Diacamma australe (FABRICIUS, 1775) (Figs. 2 - 4, 13)

Formica australis FABRICIUS 1775: 393 (combination as *Diacamma australe* by MAYR 1862: 718). Type data: Holotype (unique syntype) from Australia (as New Holland) (The Natural History Museum, London, examined) (ZIMSEN 1964: 426).

Material examined: Australia: Queensland: 24 miles SSE of Townsville, 30.III.1962, leg. J. E. Dowse, 6 ☿☿