Higashi, R. J. Kohout, BBL, T. Matsumoto, GBM, S. R. Monteith, D. C. F. Rentz, G. I. Thompson, RWT, TAW, D. Yeates).

This species is seldom encountered diurnally, but in suitable areas its workers may be taken commonly at night on the ground. They range many metres from their nests as solitary foragers, and appear to navigate visually, yet may be taken abroad in darkness extreme to humans. Nests are constructed in the soil without a distinct mound, and have large, open entrances, usually overhung by exposed tree roots or pieces of rotting wood lying on the ground. They are frequently constructed at the bases of large trees. The upper nest chambers can often be exposed if the covering material can be lifted aside, but most chambers are deeper underground, to at least 0.5 m. Colony surrounds are quiescent during the day, and it is not usually possible to raise defenders, except by considerable excavation. At night, however, many ants may be present at nest entrances, depositing excavated soil, foraging, etc, and defenders are easily provoked to reaction. They spray formic acid (samples chemically identified by Dr T. E. Bellas), which can become locally redolent with disturbance. Most specified records are from rain forest, but several samples taken W of Paluma are from "wet sclerophyll". *N. carazzii* has not been encountered at some sites where I have frequently worked at night (e.g. Lake Eacham N.P.), and I suspect for this reason that its distribution might be patchy.

This is perhaps the largest formicine, and one of the largest ants apart from *Myrmecia*, found in base-of-Cape-York-Peninsula rain forests. Its ground colour is very dull deep brown, almost black, with the head usually a shade darker, and largely shining in the very large-headed soldiers. Maximum head width in these can exceed 6 mm, and the occipital border may be allometrically deeply to very deeply concave in the largest individuals.

Notostigma foreli Emery

Notostigma foreli Emery, 1920: 253.

N. foreli, like *N. carazzii*, is limited in distribution. It is found in south-eastern Queensland and north-eastern New South Wales, and seems to be restricted to rain forest. Its workers are likewise solitary, nocturnal foragers. The soil excavated from a nest may form a pronounced symmetrical cone, about 0.3 m high, surrounding the open summit entrance. The raised, reddish local sub-soil often makes these very easily seen. During the day above-ground effort to disturb the ants is typically ineffectual, but at night large numbers of workers may be present on the mound surfaces.

The known distribution (ANIC) is: QUEENSLAND: Mt Glorious (27/152); Joalah N.P., Tamborine Mt (27/153); Stanthorpe (28/151); near Binna Burra (i.e. Binnaburra Lodge), (Lamington) National Park, Upper Tallebudgera Valley below Springbrook (28/153). NEW SOUTH WALES: Lismore (28/153); Myall Lakes N.P. (32/152) (Collectors: D. Cook, C. F. Deuquet, H. Hacker, D. Havenstine, A. Hiller, GBM, Z. Leipa, E. Sutton, RWT, W. Taylor, G. I. Thompson).

N. foreli is relatively large as a non-myrmeciine ant, but it is smaller than *N. carazzii*. Head width in the largest workers is about 4 mm, and the occipital border is at most only feebly concave in frontal view, even in the largest workers. The ground colour is dull golden brown, with the head slightly, but usually distinctly darker.

Polyrhachis Fr. Smith

Emery (1925) listed 2 Melanesian species under *Polyrhachis* subgenus *Campomyrma* Wheeler, and 5 under subgenus *Aulacomyrma* Emery. Formal use of the *Polyrhachis* subgenera of the Emery/Wheeler classification is not recommended, though Emery's subgeneric listings do conveniently bring together species relevant to this study. They have been reviewed to identify possible synonyms of Australian names, of which one, discussed elsewhere, was found. Melanesian names published after 1925 have not been considered. They could not be senior synonyms of the 4 Australian "*Campomyrma*" species described since then. I have elsewhere reviewed