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THE SEARCH FOR NOTHOMYRMECIA

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Despite the world-wide prevalence and great diversity of the ants, the origins of these insects remain shrouded in mystery. Presumably the most primitive forms arose from non-social tiphoid wasps, but the exact intermediate links are unknown. As a consequence, the origin of social behaviour in the ants can only be inferred from the study of living, completely social forms. It is therefore natural that entomologists should devote special attention to the primitive ants, which, it is hoped, will provide valuable clues to the critical early steps in ant evolution (Wheeler, 1933; Haskins and Haskins, 1950, 1951).

On the basis of purely morphological evidence, the most primitive known ant, living or fossil, appears to be the contemporary species *Nothomyrmecia macrops* Clark. This unusual form was described by the Australian entomologist John Clark in 1934 from two specimens collected in the arid country inland from Israelite Bay, in south-eastern Western Australia. It is a curious and unhappy fact that in the intervening twenty-five years, despite strenuous efforts by several teams of entomologists in the field, no additional specimens have been obtained. The purpose of the present paper is to call attention to the significance of *Nothomyrmecia macrops*, to add certain important morphological details omitted in Clark's original description, and to describe briefly the history of the field trips conducted in the area of the presumptive type locality.

Nothomyrmecia macrops looks in many ways like a smallish bull ant or large jumper ant (genus *Myrmecia*), although the jaws are broader and the eyes set farther back on the sides of the head. The ant is tawny yellow in colour and covered with long erect hairs. The claws are strong, with an extra tooth as in the bull ants, and well fitted for climbing trees or shrubs. A strong sting is present and probably used with good effect.

In a recent review of the phylogeny of the ants, one of us (Brown, 1954) has suggested that *Nothomyrmecia* is the most primitive member of the subfamily Myrmeciinae, which includes the most primitive known of the living and fossil ants. The Myrme-