

# Microscopic Revelations: The Forms and Multiple Uses of Ground-edged Artefacts of the New South Wales Central Coast, Australia

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**ABSTRACT.** Results of an exploratory study, that set out to investigate the types of use-wear that could be observed on ground-edged artefacts from the NSW Central Coast of eastern Australia, are presented. The main findings are the multiple activities for which the hatchets were used and the types of materials which they worked. Some of the activities and materials are not noted in historical accounts for southeastern Australia, and suggestions are raised about possible uses of hatchets by women. Among new results are uses for the unusual ground-edged hammer/pounders which are not recorded in the historical literature and which seem to be almost restricted to the NSWCC.

Basic functional data about the actions undertaken and materials worked by the hatchets and hammer/pounders were obtained using low- and high-power microscopy, and by comparing wear traces recorded in previous use-wear studies and on experimental basalt tools.

The use-wear analyses, not only identified activities that created the ‘battered’ edges, but also revealed a greater multiplicity of uses of the ground-edged artefacts than hitherto identified. Eighteen wear-types document use of ground-edged artefacts for working wood, skin and ochre, abrading and polishing bone, and as hammers and anvils in working stone. Non-woody plant material was processed by both hatchets and hammer/pounders. The activities and processed materials identified by the use-wear analysis, especially those referred to as hammer/pounders, give new insights into understanding the diversity of forms and multiple functions of this class of implement in Australia.

## Introduction

Ground-edged stone hatchets (axes) are one of the commonest Aboriginal implements referred to in historical accounts, and are amongst the most numerous large-sized stone artefacts in museum collections (e.g., Dickson, 1976: 34, 1981: 1; McCarthy *et al.*, 1946: 44). It is the only stone implement found in archaeological contexts whose counterpart can be found unambiguously in historical descriptions and illustrations (Attenbrow, 2010:100). Yet, despite their historical and archaeological prominence, there are very few published descriptions of the use-damage sustained by ground-edged artefacts or residues that may survive on their surfaces (e.g., Clarkson *et al.*, 2015, 2017;

Dickson, 1976: 42; Fullagar, 2011; Gillieson & Hall, 1982; Hall *et al.*, 1989; McCarthy, 1976: 47; McCarthy *et al.*, 1946: 44, 59).

During a broader provenancing study of ground-edged artefacts (GEAs) in the Sydney Basin (Attenbrow *et al.*, 2017; Grave *et al.*, 2012), a group of GEAs in the NSW Central Coast (NSWCC), referred to as ‘hammer/pounders’ were noted as having an unusual form and restricted distribution. They have a ‘battered’ ground edge and are found principally in the Mangrove Mountain area of the NSWCC (McCarthy, 1976; McCarthy *et al.*, 1946; Thorpe, 1932).

The initial aims of this use-wear study were to identify activities for which eleven hammer/pounders were used and the materials that were processed with them. To provide a

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