Recent investigations of the early prehistory of the Wainganga River basin, eastern Maharashtra, India

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Introduction

The Pleistocene archaeological record of South Asia is important for questions relating to the origin and evolution of Palaeolithic cultures, continuity or change in lithic technologies, and the dispersals of humans across Asia. With these issues in mind, the research project presented here has set out to investigate the basin of the Wainganga River of the Deccan Plateau, southern India.

The rich prehistoric archaeological record of the eastern parts of the state of Maharashtra has been investigated since the 1930s, leading to the discovery of sites, rock art and fossils (de Terra & Paterson 1939; Srinivasan 1962–1963; Joshi 1964; Ota 1993–1994). The present study aims to investigate questions related to long-term behavioural changes from the Acheulean to the Late Palaeolithic in relation to geomorphological and climatic changes during the Pleistocene. Field surveys have been undertaken both to re-investigate previously discovered sites and to explore new areas.

Site distribution and artefact contexts

The wider region is characterised by low hills and mature pediment surfaces. Acheulean sites are concentrated in the Wardha-Wainganga basin, mainly in the pediment (n = 7) and hilltop (n = 2) areas, with easy access to raw materials from the Archaean and Gondwana formations (Figure 1). The quartzite used by Acheulean hominins is present in the form of boulders and cobbles in the foothills of the Chimur Hills and in the watercourses downstream for a distance of 12km. Late Palaeolithic sites are found in the pediments (n = 4), hilltops (n = 6), hill slopes (n = 2) and in secondary contexts within the river channels (n = 9) of the Kanhan-Wainganga basin. Late Palaeolithic sites are all found in the context of the Archaean, Gondwana and Deccan Trap formations with cherts derived from the Intertrappean veins that are exposed at some areas (District Resource Map, Maharashtra; Geological Survey of India 2000).

Artefacts of all cultural phases are predominantly found eroding out of regoliths derived from *in situ* weathering of the local bedrock: sandstone of the Talchir and Kamathi formations (around 3m thick), shale (around 2m thick) and basalt dominated by core stones of the Intertrappean Deccan Traps (around 50cm thick). These regoliths are capped

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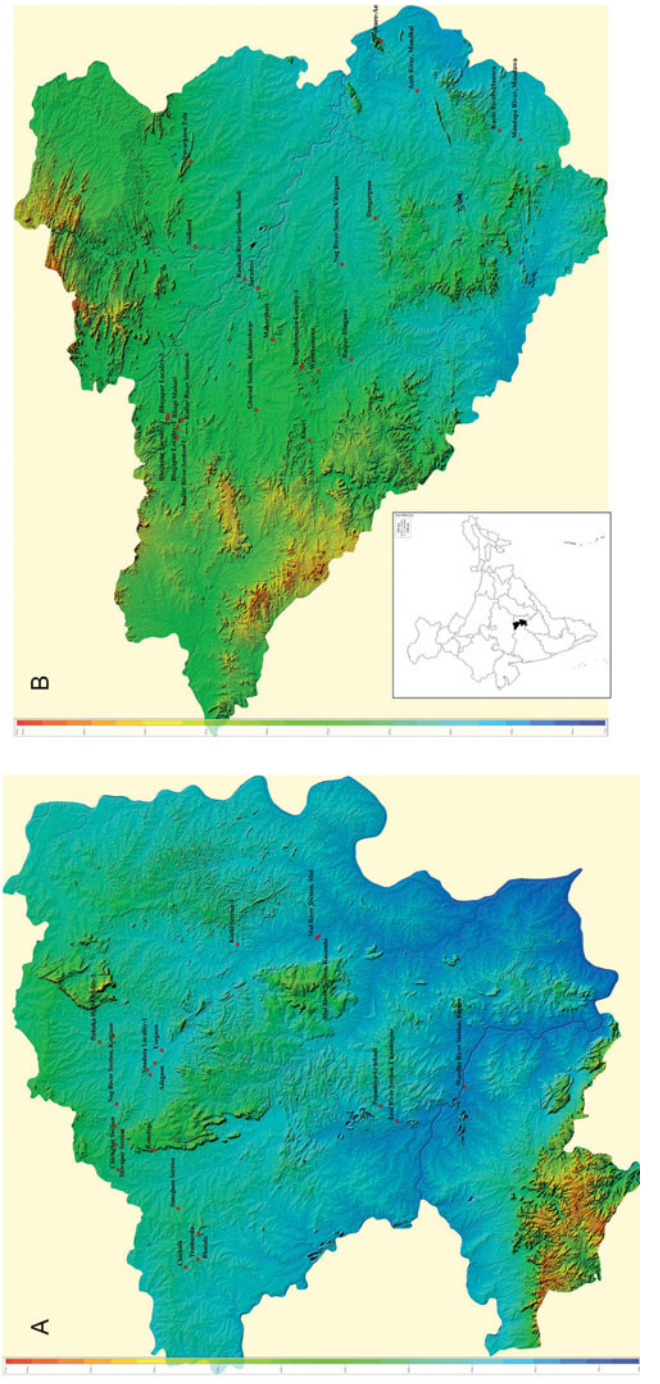

Figure 1. Locations of the prehistoric sites, showing their distribution in relation to drainage: A) Chandrapur region; B) Nagpur region, eastern Maharashtra, India.

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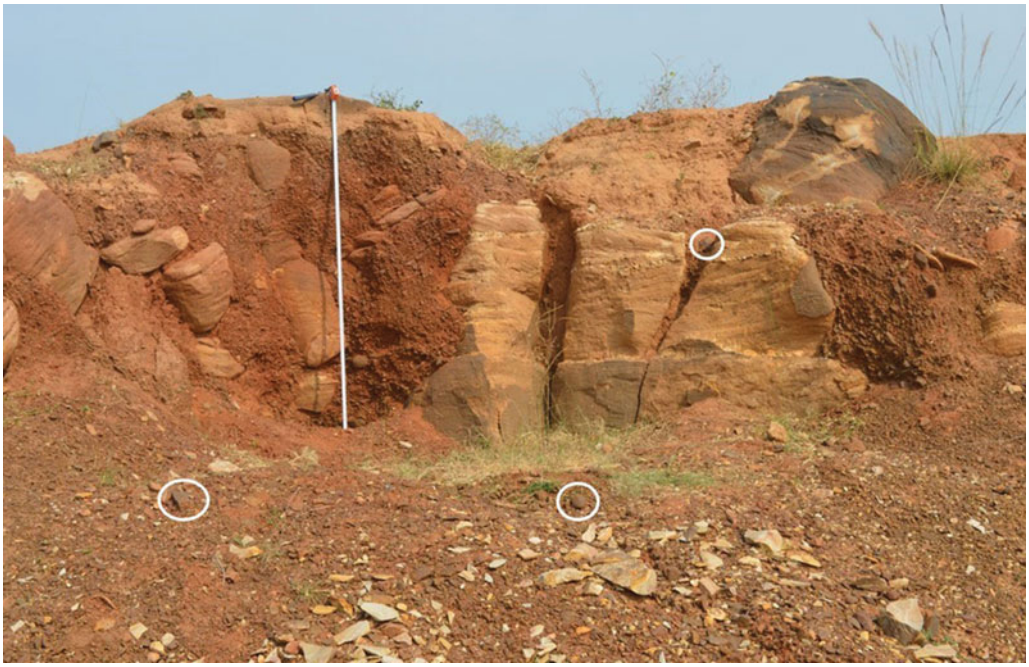

Figure 2. Acheulean artefacts within the regolithic context at the site of Bhatala (the site is currently being destroyed by quarrying).

by compact sterile sand, calcretised bouldery pebble gravel and silty sand. Unique contexts include two sites (Temburda and Bhatala) where the Acheulean occurs in a regolith derived from weathered sandstone, disconformably underlying the compact sand. Late Palaeolithic artefacts are present on the surface of the compact sand (Figure 2).

Lithic assemblages

Acheulean lithic assemblages (n = 210 artefacts) from two major sites (Bhatala and Temburda) have been studied. The predominant raw materials are chert and coarse-grained purplish quartzite sourced either from the Chimur foothills or from the gravels of the downstream watercourses; locally available sandstone was not used. The tools are predominantly bifaces (n = 140), among which cleavers exceed hand axes (n = 72 and 52 respectively). Picks, discoids and other large flakes are also present; waste flakes (n = 70) are sparse (Figure 3). The biface blank types are side flakes, end flakes and cobbles; average biface dimensions are 119 × 83 × 36mm. Cleavers are moderately flaked on the dorsal side, whereas hand axes are flaked intensively on both surfaces. Large or giant cores are absent.

The question of whether there was a Middle Palaeolithic presence in this region cannot be resolved, as no true Levallois components have been observed. Late Palaeolithic artefacts (n = 2620), however, are represented by a dominance of blade technologies, albeit in various stages of refinement. The raw materials used are chalcedony, quartz, quartzite and chert, with the latter preferred. The blank types are flakes, chunks and cobbles. Flake cores, blade cores, scrapers and blades with waste products are all represented (Figure 4). Flake cores

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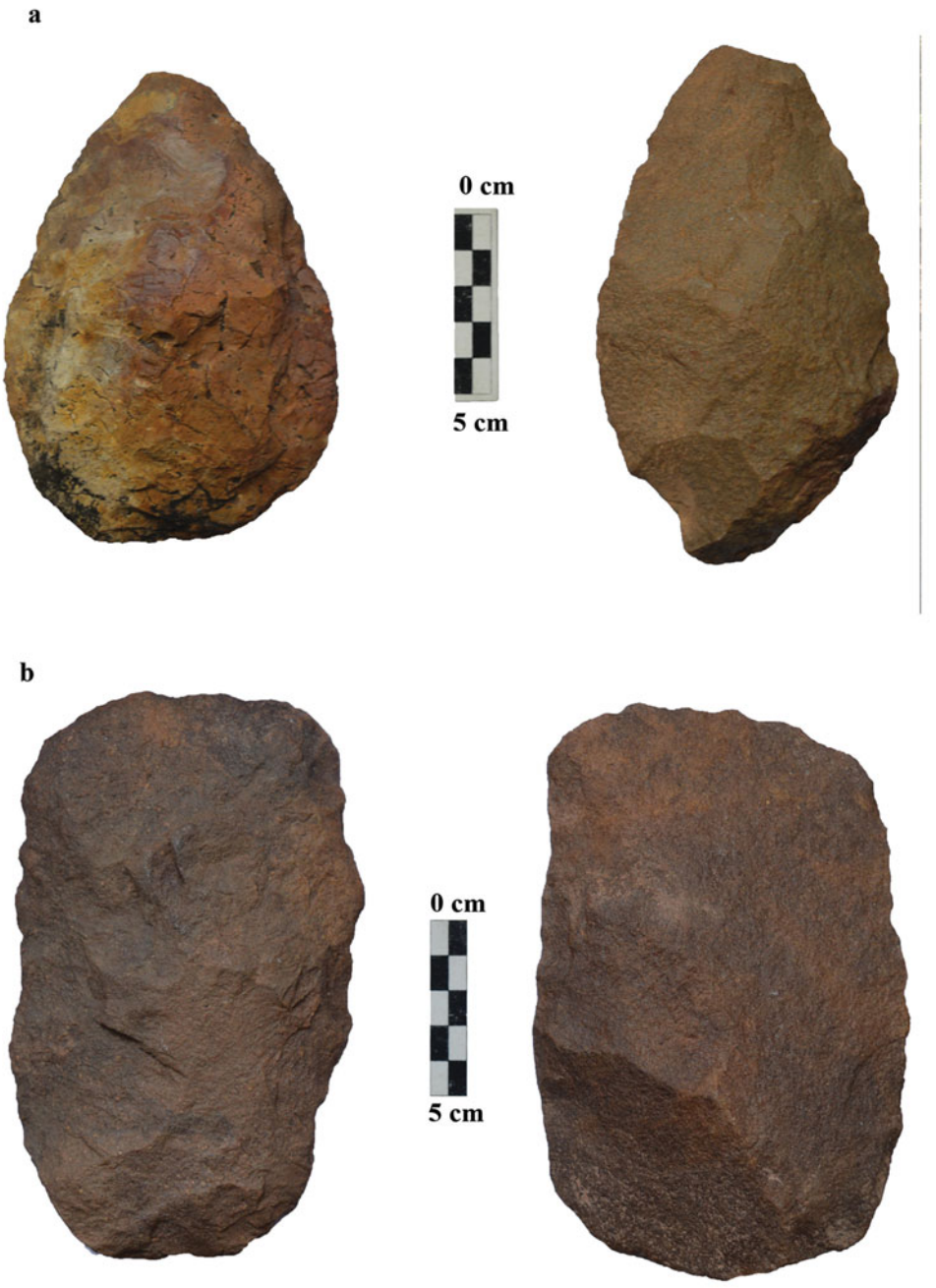

Figure 3. Acheulean artefacts comprising: a) hand axes; b) cleavers.

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Figure 4. Late Palaeolithic artefacts showing: 1–8) different types of blade cores; 9–13) blades; 14–17) scrapers.

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(86 × 74 × 48mm) primarily produced small flake blanks around 75mm in length. Blade cores (42 × 24 × 21mm) retain some cortex, possibly as handholds, and are pyramidal, cylindrical and amorphous in shape. Efforts made for ridge preparation are visible on blade cores. Also present are scrapers made on flake and blade blanks, with flake scrapers showing single- and double-sided forms with straight, convex and concave edges. Borers, points and burins are absent from this assemblage.

Discussion

The study highlights the spatial distribution of Acheulean and Late Palaeolithic sites in a predominantly regolithic context. The Acheulean is absent in regions dominated by the Deccan Traps, clustering in elevated areas (240m asl) where rivers have had minimal influence, with artefacts eroding out from the regolith. Similar observations have been made at Tikoda (Mishra *et al.* 2012) and in the Hunsgi-Baichbal basin (Paddayya 2008). The absence of large or giant cores, sparse waste products and the use of the non-local purplish quartzite as a raw material in the Acheulean horizon suggest a fractured reduction sequence, implying the introduction of tools to these sites. This indicates hominin planning and decision-making capabilities in this region. There is no clear evidence as yet of artefacts characteristic of the Indian Middle Palaeolithic or Levallois technologies. The reasons for this are as yet unclear; future survey may lead to such discoveries.

A sterile disconformable level of compact sand is present between the regoliths containing Acheulean and Late Palaeolithic artefacts. The Late Palaeolithic assemblages in this region are comprised of flake-blades and blade-tools, marked by irregular unstandardised blades, a predominance of flake tools, and rudimentary ridge preparation, suggesting an early stage of the Late or Upper Palaeolithic.

This study highlights the importance of the new data emerging from the re-examination of areas already known to have rich prehistoric archaeological records. It emphasises the variability in the nature of prehistoric culture sequences across South Asia, in particular marked by the absence of certain cultural phases that require further consideration. This in turn points to possibilities of examining questions related to transition and change through time and preferences for different regions, raw materials and lithic reduction strategies adopted by successive populations. Shifts in regions preferred by Acheulean *vs* Late Palaeolithic populations are suggestive of factors linked to cognition, raw material preferences and geomorphological processes. The Late Palaeolithic blade-based assemblages are critical for understanding the evolution of lithic technologies in India in the context of debates about modern human dispersals (Mellars *et al.* 2013; Mishra *et al.* 2013). The absence of the Middle Palaeolithic, in particular, requires further investigation in the context of population dispersals and regional variability across South Asia.

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