

Excavation of an Acheulian workshop at Isampur, Karnataka (India)

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FIGURE 1 (right). Trench 1 (sq. m grids) showing the Acheulian level resting on a weathered limestone bed.



FIGURE 2 (below). Closeup of the Acheulian level in Trench 1 showing limestone blocks and artefacts (15-cm scale).



FIGURE 3 (right, above). Closeup of the Acheulian level in Trench 5 showing artefacts including debitage (15-cm scale).

FIGURE 4 (right, below). Closeup of the Acheulian level in Trench 1 showing artefacts and a fossilized bone piece of *Bos* sp.



Isampur is one among a remarkably dense concentration of 200 Acheulian sites of the Lower Palaeolithic stage located in the Hunsgi and Baichbal valleys of peninsular India. The two valleys constitute an amphitheatre-like erosional basin (about 500 sq. km in extent) of Tertiary age and are enclosed by shale and limestone flatlands

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or low hills of schist and granite. Paddayya's research over quarter-century (foot-surveys and excavations) has revealed much data on depositional, spatial and cultural contexts of the Acheulian sites: one of their special features concerns the use of limestone as the principal raw material for tool making. Radiometric dates suggest that the age of the sites ranges from 200,000 to beyond 350,000 years. From field data combined with observations from experimental and ethnoarchaeological approaches, Paddayya (1982; 1991) has reconstructed the Acheulian culture from a settlement system perspective.

The site of Isampur (16°30'N; 76°29'E) is located in the northwestern corner of Hunsgi valley. It was discovered in 1983 when much of the 1–1.5-m thick brown/black silt cover overlying the cultural level was quarried away by the Irrigation Department, leaving a remnant of 10 to 60 cm cover. Our geoarchaeological research showed that the site was located on the limestone-strewn outer edge of an ancient drainage tract (3–4 m deep) where water was assured, and forming part of the undulating erosional topography of the valley floor.

The recent soil quarrying, farming activities and soil deflation have exposed the surface of rich Acheulian cultural material lying directly on the limestone bed of the valley floor. The site covers c. 0.75 ha and consists of an eroded outcrop of limestone blocks. In addition to a secure source of water, the availability of limestone blocks of suitable sizes (30–40 cm across and 10–15 cm thick) for purposes of flaking was a major factor influencing the selection of the spot by hominids.

The distinctive topographical context (located in a valley setting but away from a river) means the site is free from disturbances like flooding or erosion commonly noticed at Palaeolithic sites in India. Four seasons of excavation from 1997 to 2000 have resulted in five regular trenches, covering a total area of 159 sq. m (FIGURE 1). Most of the exposed Acheulian cultural material is in primary context, and is 20–30 cm thick. It consists of limestone blocks (some already altered to form cores), artefacts in various stages of working, debitage of various size ranges, and hammerstones of basalt, chert and quartzite, all set in a hard matrix of brownish calcareous silt. The fresh physical condition of artefacts confirms that the material remains *in situ* (FIGURES 2 & 3).

The authors propose that the Isampur site was essentially a workshop (Paddayya *et al.* 1999; Petraglia *et al.* 1999). The site's location, on a geological outcrop of raw material (limestone), and the presence of hammerstones, as well as cores and artefacts in various stages of manufacture or reduction, various classes and kinds of waste products and the low proportion of finished tools like handaxes

and cleavers as compared to cores and debitage, all support this proposition.

The surface indications and excavated features imply that the site consisted of four contiguous localities, each measuring a spread of 300–400 sq. m of weathered blocks of limestone. Each cluster was probably used or occupied by an extended family/group; all these groups formed a larger band-like population aggregate. The recovery of a small quantity of fossil fauna comprising bovid and cervid bones and dental remains and turtle-shell pieces suggests that, in addition to manufacturing activities, the site also witnessed occupation activities (FIGURE 4).

Excavation was carried out in all the localities and a total of over 15,000 artefacts were recovered, showing an assemblage corresponding to all reduction stages and comprising hammerstones and debitage of different sizes. This vast body of lithic data has made it possible to reconstruct the whole spectrum of lithic reduction processes. The following main stages were identified: a) selection and, in some cases, the levering of suitable limestone slabs from the outcrop and preparing them into cores by chipping off irregular projections from sides or corners; b) removal of large flakes (20–25 cm across) and transforming them with a minimum of secondary chipping into knives and chopping tools; c) shaping some of the better-struck flakes into bifaces (handaxes and cleavers) by means of elaborate secondary flaking and chipping; and d) use of some of the thinner limestone slabs (2–6 cm thick) for biface making.

The Isampur site thus provides a rare window into the Acheulian hominids' knowledge of the landscape and the organizational aspects of their lithic technology. It was probably a localized hub of manufacturing and occupation activities, from where the hominids radiated on to the uplands and the valley floor as a part of their daily foraging activities. The dating of animal bone samples from excavation by means of absolute dating techniques is under way. Considering the primitive technological and typological features displayed by the lithic assemblage, it is expected that the age of the site may be of the order of 0.5 to 0.6 million years.

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