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Short articles



## TYOLOGICAL CONTEXT OF THE LOWER PALAEO LITHIC FROM DARAKI-CHATTAN CAVE (INDIA)

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In addition to housing some of the oldest known rock art in the world, Daraki-Chattan is also an important Palaeolithic site because it is one of the very few Indian locations where Mode 1 (pre-Acheulian) occupation evidence has been excavated in a stratified context. Overlain by a typical Acheulian with hand-axes, this deposit has yielded very simple, Oldowan-like stone artefacts made mostly of the local quartzite. This very early cupule site is therefore of particular importance to exploring the Lower Palaeolithic (LP) industries of southern Asia.

The LP stone tool sequence in the Daraki-Chattan sediments commences from the uppermost levels of the floor deposit, which comprises only a very thin layer of more recent strata. In places an industry intermediate to Middle and Lower Palaeolithic typology was visible at the surface before excavation commenced. These intermediate tool types are underlain by a substantial deposit defined as Acheulian, but poor in typical hand-axes and cleavers. Six vague and fairly arbitrary layers were distinguished in the sediment, becoming progressively more reddish in layer 5. The lowest sediment deposit is characterised by its red colour. Its upper part contains severely weathered Mode 1 cobble tools as well as hammerstones of the type used to produce the cupules.



Two choppers on cobbles found close to bedrock,  
among the earliest artefacts from Daraki-Chattan, Oldowan / Mode 1 type.

Arbitrary layers 3 and 4 contain LP flake artefacts, some made from river cobbles, but most made of the local purplish quartzite. A few artefacts consist of patinated cherts. Layer 5 contains still much the same industry, but increasing iron content has effected a more reddish colour. Both stone tools and clasts show increasing effects of weathering and iron induration, which on large clasts may take the form of thick mineral crusts of primarily ferromanganese composition.

The basal sediment layer features only very weathered stone tools and clasts. Tool types from the lower sediments include cobble tools, discoids, core choppers, flake scrapers and polyhedrons similar to the so-called Durkadian reported by Armand. A few specimens resemble what have been called core-scrapers at Mahadeo-Piparia, another central Indian site, whose repertoire has been called the Mahadevian. These characteristic pieces are large blocks with a zigzagging edge produced by chunky flakes having been removed alternatively from each side. Although LP and MP stone tool traditions are widespread in India, represented in massive quantities and typologically accounted for, their absolute chronology has remained largely unresolved so far. This is due both to a paucity of excavated sites (most known sites are surface scatters) and a pronounced lack of well-dated sites. The cobble or chopping tools preceding the bifaces of the Indian Acheulian have attracted comparatively little attention.

While the Lower Acheulian remains largely undated, preliminary indications suggest a late Middle Pleistocene antiquity for the Final Acheulian. Thorium-uranium dates from three calcareous conglomerates containing Acheulian artefacts (Nevasa, Yedurwadi, Bori) suggest ages in the order of 200 ka. The most recent date for an Indian Acheulian deposit is currently the uranium-series result of about 150 ka from a conglomerate travertine at Kaldevanahalli. There remains wide disagreement about the antiquity of the Early Acheulian and the Mode 1 industries. Some favour a date of 1.4 million years (My) from Kukdi valley for the earliest phase of the Acheulian; others reject it. The earliest phase of human presence in India, of Mode 1 assemblages, remains largely undated, but at Pabbi Hills, dates ranging from 2.2 to 1.2 My have been acquired by palaeomagnetism. The few flaked quartzite cobbles from Riwat (Pakistan) appear to be in the order of 2.5 My old, rather than 1.9 My as previously proposed. The claims from Labli Uttarani, ranging from 1.6 to 2.8 My, are viewed sceptically. However, the earliest data from China imply an occupation by hominins prior to 2 My, which demands human presence in India by that time. Reliably identified Mode 1 industries have been excavated from secure stratigraphies in very few cases, and they were found below Mode 2 (Acheulian) strata at the two early cupule sites, Auditorium Cave at Bhimbetka and in Daraki-Chattan. These quartzite tools are partially decomposed at both sites and they were found in both cases below pisoliths and heavy ferromanganese mineral accretions indicating a significant climatic incursion.





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