Palaeolithic and Microlithic Assemblages of Venbedu, Chengalpattu District, Tamil Nadu

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Abstract: *This article presents the findings of a systematic archaeological survey conducted at Venbedu, a village located in the Chengalpattu District of Tamil Nadu, approximately 50 km south of Chennai. The survey reveals significant Palaeolithic and Microlithic assemblages, offering insights into early human activities in the region. The site, situated near a hill surrounded by thorny bushes and an ancient Siva temple, exhibits a variety of stone tools, including bifacial hand axes, choppers, scrapers, and microliths. Evidence from the site suggests a Middle Palaeolithic occupation, with lithic assemblages made primarily from Quartzite, Quartz, and Chert. The tools were primarily produced using multidirectional, unidirectional, Levallois, and discoidal flaking techniques. Additionally, the site contains evidence of laterite and calcrete formations, which suggest the presence of fresh water during prehistoric times. Despite significant urban disturbances, the site also contains remnants of burials, including Cairn circles and urn fragments. While the Iron Age and Early Historic evidence is present, the Palaeolithic and Microlithic components dominate. The findings from Venbedu contribute to the understanding of human settlement patterns in Tamil Nadu and provide valuable information on prehistoric technology and the behavioral aspects of early human societies. Further detailed analysis is needed to explore these cultural phases more comprehensively.*

Keywords: Venbedu, Palaeolithic, Quartzite, Microliths, Quartz, Laterite, Artefacts

Introduction

Venbedu is a small village located in Tiruporur Taluk, Chengalpattu district, Tamil Nadu, approximately 50 km south of Chennai (Figure 1). The site is situated along the district highway connecting Mambakkam to major towns like Chengalpattu and Tiruporur via Kayar. To understand the cultural sequence and settlement patterns of this site, a systematic survey was conducted, and this article presents the findings of that survey.

Previous Work by Scholars

The study of Indian prehistory began with the discovery of stone tools by Robert Bruce Foote in 1867 at Pallavaram, about 40 km from the present study area. Foote is often referred to as the father of Indian prehistory (Foote, 1880). Following Foote, several

scholars, including William Jones, V.D. Krishnaswamy and T. Patterson (1938), and K.D. Banerjee (1965), surveyed various areas of Tamil Nadu. Professor A. Swamy (1970) from the University of Madras explored the Chengalpattu district and identified several prehistoric sites, with his study on the archaeology of the district becoming a significant contribution to prehistoric research. More recently, the Archaeological Survey of India, Chennai Circle, has identified additional important sites through its village-to-village surveys. However, there remains a gap in prehistoric research in this region.

Figure 1: Location of Site Venbedu

Geology and Geography

The site is located at the foothills (Figure 2) and is designated as a reserved forest by the Government of Tamil Nadu. The area is surrounded by dense thorny vegetation, and at the summit of the hill, there is an ancient Siva temple exhibiting both Pallava and Chola architectural features. The uppermost soil at the site is sandy, yellowish-brown in color. Due to erosional activity, many elevated areas lack sandy sediments, exposing lower deposits. These lower deposits consist of laterite, which lies above a bedrock of Charnockite. The Charnockite bedrock dates back to the Proterozoic era, while the lateritic deposits are believed to have formed during the Neogene period. Nodular calcrete is present within the lateritic deposits (Figure 3). The sandy deposits are relatively younger in the geological timescale (Subramanian, K.S., and Selvan, T.A., 2001).

Figure 2: View of the Site

Figure 3: Section

Figure 4: Field Exploration

Site Description

The exploration of this site has provided significant information about early human ancestors through various material remains. Most of the evidence consists of Middle Palaeolithic lithic tools, with notable microliths. Additionally, burials in the form of cairn circles and urns were previously reported (IAR 1948). However, many of these burials have been disturbed by urbanization. Despite this, fragments of Black and Red ware, red ware, urn pieces, and iron slags have been scattered across the site. The site is located on the northwestern side of the road.

Figure 5: Bifacial Hand axe

Figure 6: Bifacial Chopper

Figure 7: Scrappers

Figure 8: Denticulate

Figure 9: Notch

Figure 10: Burin

Present Exploration

The current systematic survey (Figure 4) has yielded valuable insights into the site's archaeological significance. Most of the lithic evidence was found to the west of the road, with an increasing density of lithics as one moved towards the hill, located approximately 100 meters from the road. Several small elevated areas were identified, though the uppermost layer of sandy sediments is absent due to erosional activity. On these raised surfaces, thin layers of laterite were observed, with most of the stone tools found near these elevated areas, and in some places, within the laterite deposits.

Microliths made of quartz were identified at the contact zone between the lower laterite and the upper sandy layer. The exploration has revealed a cultural sequence ranging from the Middle Palaeolithic to the Early Historical period, although no evidence of Neolithic occupation was found.

Figure 11: Complete Flakes

Figure 12: Cores

Figure 13: Heat Treated Flake

Figure 14: Complete Flake

Figure 15: Bipolar Flake

Figure 16: Retouched Fragments

Figure 17: Fossilized Wood

Lithic Assemblage from Venbedu

The archaeological exploration at Venbedu has uncovered 253 Middle Palaeolithic stone artefacts and 51 microliths. Among the 268 Palaeolithic artefacts, the following items were identified: one miniature hand axe (Figure 5), two bifacial choppers (Figure 6), 23 cores (Figure 12), 11 scrapers (Figure 7), five denticulates (Figure 8), three notched tools (Figure 9), three burins (Figure 10), and debitage. The debitage includes 110 complete flakes (Figure 11), 100 broken flakes, 9 broken cores, and a single broken hammer stone. Regarding the microlith assemblage, 51 pieces were found, consisting of 2 formed artefacts, 9 complete flakes, and 40 debitage fragments. The two formed artefacts are retouched tools. Of the 9 flakes, 4 are complete, 4 are bipolar flakes, and 1 is a heat-treated (potlid) flake. The debitage includes 40 pieces: 2 core segments, 33 broken flakes, and 5 flake pieces. In association with the lithics, fossilized wood fragments were also discovered (Figure 17).

Table 1: Categories of Middle palaeolithic assemblages with its raw material types from Venbedu

Sl. No.	Typology	Raw Materials	Total
1	Miniature Hand axe	Quartzite	1
2	Bifacial Choppers	Quartzite	2
3	Scrapers	Quartzite	11
4	Denticulate	Quartzite	5
5	Complete Flakes	Quartzite	97
6	Complete Flakes	Quartz	13
7	Notched Tool	Quartzite	3
8	Cores	Quartzite	23
9	Burin	Quartzite	3
10	Broken Flakes	Quartzite	100
11	Broken Cores	Quartzite	9
12	Broken Hammerstone	Quartzite	1
Total			268

Palaeolithic Artefacts from Venbedu

The exploration at Venbedu has revealed a variety of formed Palaeolithic artefacts, including a miniature handaxe, scrapers, notched tools, denticulates, and burins. Preliminary analysis suggests that denticulates are the most common form of tool, with smaller quantities of scrapers, notched tools, and burins. The presence of handaxes, denticulates, and a few scrapers indicates that the lithic assemblage belongs to the later phase of the Early Middle Palaeolithic, in comparison to nearby sites. The lithic assemblage predominantly reflects the use of multidirectional flaking techniques (n=10), with unidirectional, Levallois, and discoidal techniques also evident. Quartzite was the preferred raw material for producing both flakes and formed tools. Along with the formed artefacts and cores, a significant quantity of debitage was recovered. The

dorsal scar patterns on the flakes indicate that multidirectional flaking was primarily employed in their production, and the high frequency of fresh-edged debitage suggests that this site served as a primary manufacturing location. Detailed measurements of the flakes reveal lengths ranging from 83.3 mm to 18.9 mm, widths from 75.8 mm to 16.7 mm, thicknesses from 33.5 mm to 3.2 mm, and weights from 103 g to 5 g. The maximum number of dorsal scars on a flake is 11. For the cores, lengths range from 78.1 mm to 31.8 mm, widths from 96.3 mm to 23.5 mm, thicknesses from 56.7 mm to 15.4 mm, and weights from 331 g to 19 g. The number of scars on the cores varies, with a maximum of 19 and a minimum of 3. Scar rotation during flake production ranged from 2 to 10 times, reflecting the varied and intensive techniques used at the site.

Microliths from Venbedu

Venbedu has yielded a total of 51 microliths, which were collected from the surface of the laterite. The primary raw materials used for manufacturing these microliths were quartz and chert. Among the assemblage, two retouched artefacts suggest human activity during the earlier phase of the microlithic period. The presence of bi-polar and heating techniques used for flake removal indicates that the lithics belong to the later phase of the microlithic assemblage. The debitage associated with these artefacts further suggests that the lithic tools were produced at this site.

Table 2: Categories of microlithic assemblages with its raw material types from Venbedu

Sl. No.	Typology	Raw Materials	Total
1	Heat Treated Flake	Chert	1
2	Complete flakes	Quartz	4
3	Bipolar flakes	Quartz	4
4	Retouched	Quartz	2
5	Core Segment	Quartz	2
6	Broken Flakes	Quartz	32
7	Broken Flakes	Chert	1
8	Flake pieces	Quartz	4
9	Flake pieces	Quartzite	1
Total			51

Conclusion

Based on the exploration and initial analysis of material remains such as stone tools, potsherds, and burials, it is clear that the site was initially inhabited during the Middle Palaeolithic period. Our ancestors at this site used flake tools and microliths made from quartz. The presence of calcrete in nodular form within the lateritic deposit suggests that there was an ample supply of fresh water during and after the formation of laterite, which could have supported the early human population. Over time, the site was also inhabited during the Iron Age and Early Historic period, with evidence from these periods being particularly prominent. However, much of the burial evidence has

been destroyed by the Tamil Nadu Forest Department, which cleared areas for tree planting and cricket grounds. Unfortunately, these areas are designated protected sites by the ASI Chennai Circle. Further intensive and detailed analysis of the lithic assemblages will provide deeper insights into the behavioural aspects of our ancestors from both the Palaeolithic and Microlithic periods.

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