PREHISTORIC INVESTIGATIONS IN THE RANJ STREAM: DIST-BARGARH , ODISHA

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ABSTRACT

The Archaeological investigation in the middle Mahanadi valley have revealed a long cultural sequence right from lower Palaeolithic period to the historical period. The excavation conducted during last few decades have brought to light a number palaeolithic , Mesolithic, Neolithic and sites. However microlithic industries constitutes the well represented in Mahanadi valley. Not only Mahanadi valley is rich in microlithic industries, but also it's tributaries such as Jira, Danta, Tel and Ranj also rich in prehistoric settlement. This paper is based on the surface exploration made by author in the year 2013-14in the Ranj stream, a tributary of jira river system in the Bargarh upland. A total of 15 sites have been discovered. Out of which only seven site of upper part of Ranj stream have been taken into typo-technologoical analysis. The tools collected from site gave a gradual development of stone tool technology. Occurrences of these cultural remains show that the Ranj stream was a favourable area for prehistoric settlement.

Keywords: Palaeolothic,Mesolithic,Microliths,Artefacts,Core,Flake,Blade,Bladelet,Burin,lunates ,Chalcedony,Quartz,Silt,agate,Jesper, ,Points.

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Introduction

The Mesolithic culture is most prolific and widely distributed prehistoric cultural period in Indian sub-continent. It has been found in a wide variety of geographical situation and ecological habitats. This period generally indicates adaptation to the post-glacial Holocene environment. Orissa in this context possesses a marked physical and cultural individuality. It has revealed evidence of cultural continuity from the remote past to the Historic period. The stone tools industries of the Mesolithic period generally indicate adoption to the early postglacial Holocene environment, the period between the final Upper Paleolithic and introduction of the Agriculture. It is marked by the predominance of microlithic artifacts comprising of parallel sided blade, backed blade penknife blades, lunates, points, borers, scrapers burins etc. It developed from the Upper Paleolithic blade burin industry. Both small geometric and non-geometric tools with a developed blade and bladelet industries, suggesting a hunting gathering economy. During this phase, Stone Age men were using food processing equipments and making efforts to the lead a semi- sedentary mode of life with trend towards domestications of wild plants and animals.

Previous investigation

The foundation of prehistoric researches was laid by Ball, who discovered the Paleolithic tool in 1875 from Angul, Talcher, Dehkanal district and Bhursapali in the Sambalpur district (Ball1876; 122-123 1880:507) representing the first stage of research in Orissa's prehistory. After Independence, G.C.Mohapatra started his research in the regions of Mayurbhanj, Denkanal, Sambalpur and Sundargarh and brought to light eight microlithic sites. Afterwards Tripathy (1970), Nanda (1983) Mohanty (1989) made valuable contributions towards this direction. Most of the work has been done in regions to which majority of the sites are in secondary context, except some, as reported by Mohanty from Keonjhar district. The intensive exploration carried out by P.K. Behera (1983-1984; 64-67:1984-85:60-61) has brought to light several Lower, Middle, Upper Paleolithic as well as Mesolithic and Neolithic sites in upper Brahmani valley and it's tributaries in the Sundergarh district.Besides, the above mentioned sites, occurrence of Microlithic industries was also reported form the Jira valley, a tributary of the river Mahanadi, in the western part of Orissa. Occurrence of "Late Stone Age" Microlithic assemblages in this valley was first reported by K.C. Tripathy (1971). Microlithic, especially backed bladelets of various forms and microlithic waste, represent the Microlithic industry. Explorations have been

carried out by the P.G. Department of History Sambalpur University in the river valley of Mahanadi and its tributaries and revealed a good number of to various cultural stages of stone age period (Ratha & Bhattacharya 1983-84; 1988 64-66).During the last two decades quite a large number of Stone Age sites are being regularly reported.

The above discussion clearly shows that the highland of Orissa and its adjoining areas bear ample testimony of the existence of microlithic industries. In view of the above, the present work has been taken up to present comprehensive characteristic features of the Microlithic industries located by us in the Ranj valley.

The Area and Environment

For the present paper, we have selected a part the Bargarh Uplands for an intensive investigation. Bargarh upland is an erosional surface with the general relief varying between 140m and 250m above mean sea level. It is bounded on the west and north-west by hill ranges of eastern Sarangarh and Raipur districts of Chhattisgarh, while on the north, east, south-east and south by the Barapahar hill ranges of Bargarh district, and uplands of Sambalpur, Subarnapur and Balangir districts of Orissa, respectively. Physiographically, the area is represented by three natural divisions such as a) the catchments of the river Jira and its tributaries, b) the continuous hill range of Saraidamak on the west and north-west which merges into the Barapahar hill in the north, and c) small isolated hills varying in height from 255m to 312m within the upland. The overall drainage pattern of the area is dendritic in nature with high drainage density, which is characteristic of hard rock terrain with low relief. The area is drained by the river Jira and its various tributaries.

The Bargarh district lies between 20^0 43' to 21^0 41' North latitude and 82^0 39' to 83^0 58' east longitude. The Ranj river constitutes one of the major tributaries of the river Jira. The river flows though the newly formed Bargarh district of Orissa. Except the eastern part, the rest of the area of this district forms an undulating upland varying in height from 146m. to 228m. Above mean sea level, excluding hills and tablelands. The river Ranj originates from near the village Birhipali in the district Bargarh and after flowing or about more than 45 km in south-eastern direction it

joins the right bank of the river Jira near the village Samlaipadar. The important seasonal streams joining Jira River are the Bargarh Nala, Nuagaon Nala, Baunsenmura Nala, Barpali Jhor etc.

The district exposes different litho-stratigraphic units having varied lithoassemblages. The recent and sub-recent formations can be seen in the form of thin deposit of primary laterite, alluvium and soil. The soil covers the greater part of the country is apparently derived from underlying metamorphic rocks and the differences found in it are mainly due to the elimination and transportation effected by surface erosion. The finer particles are carried into the low lying areas along the drainage line, rendering the soil a clayey texture and leaving the upland light and sandy. The climate of this area characterized by long warm summers and cold winters. The climate of this area support mostly dry-mixed-Deciduous type of forest, closely resembling that of the semi-arid and sub-tropical zone, with Sal being dominant plant species. The average annual precipitation in the district is 1527mm. about 90 percent of the annual rainfall is received in the monsoon season.

Site description

The present paper intends to give a brief description of the sites and their material remains recovered and studied by us from the various parts of Ranj stream. A total number of fifteen sites have been located by us. Out of which only seven site have taken into typo-technological analysis A brief description of these sites are given below.

1. CHICHINDA

The site of Chichinda is situated about one kilometer north of the village Chichinda on the right bank of the river Ranj. It lies between21^0 17$^{'}$ 21.5”N longitude and 83^0 26’51.9” E latitude. It has an elevation of 209mtrs above mean sea level. The site is located on the eroded gravelly surface of a raised mound near the village. The artefactual scatters spread over an area of about 100 mtrs, of which only 20mx20m surface selected for random sampling. A total of 429 artefacts made on chert, quartz, chalcedony raw material was collected from the eroded surface at the site. Almost all the exposed artefacts are in mint fresh condition. The macro composition as well as the list of various tool type represented at the site is given in the following table.

Table-1

Artefacts category	Total Nos.	Percentage	Unretouched Blank Nos.	Percentage	Retouched Blanks	Percentage	Percentage Utilized
Core	141	32.86	-	-	-	-	-
Flake	225	52.44	168	87.04	57	78.08	25.33
Blade	11	2.56	04	2.07	7	9.58	63.63
Bladelet	20	4.66	14	7.25	6	8.21	30
Fragments	-	-	-	-	-	-	-
A-Distal	3	0.69	1	0.51	2	2.73	-
B-Medial	2	0.46	2	1.03	-	-	-
C-Proximal	5	1.16	4	2.07	1	1.36	-
Total	407	94.83	-	-	-	-	-
Chunks	22	5.12	-	-	-	-	-
Grand Total	429	99.95	193	99.97	73	99.96	

2. LEBRI

The microlithic industry of Lebri is located near the left bank of river Ranj. It is situated nearly 2 kilometer north of the site of Hirapali and about half kilometer west of the village Lebri. It has an elevation of 217mtrs above mean sea level. It lies between 21^0 16' 57.7" N longitude and 83^0 27' 52.0" latitude. It is about 150m distance from the riverbank. The site spread over an area of 300 square meter. But due to cultivation this is partially destroyed. The artefactual scatters in the form of small clusters were found exposed on the eroded surface of the compact, brownish colored clayey soil. The exposed section of the river at this place contains a thin layer of gravel deposit. A total number of 345 specimens were randomly collected from a small area measuring 20m x 20m. Which are made on chert, quartz, chalcedony etc. The assemblage composition of microlithic component is indicated in the following table.

Table-2

Artefacts category	Total Nos.	Percentage	Unretouched Blank Nos.	Percentage	Retouched Blanks	Percentage	Percentage Utilized
core	118	34.20					
Flake	171	49.56	143	79.44	28	73.68	16.37
Blade	12	3.47	09	05.00	3	7.89	25.00
Bladelet	19	5.50	13	7.22	6	15.78	31.57

Fragments	-	-	-	-	-	-	-
A-Distal	4	1.15	4	02.22	-	-	-
B-Medial	5	1.44	4	02.22	1	2.63	-
C-Proximal	7	2.02	7	03.80	-	-	-
Total	336	97.34					
Chunks	09	2.60					
Grand Total	345	99.94	180	99.98	38	99.98	

3. HIRAPALI

The site of Hiriapli is situated about 3 kilometers east of the village Chichinda on the right bank of the river Ranj. This site is located about half a kilometers north of the village Hirapali. It lies between 21^0 17' 24.1" N longitudes and 83^0 26' 53.6" E latitude. It has an elevation of 196 mtrs above mean sea level. Here artefacts were found on the eroded surface of a compact, sandy-clayey deposit. The lithic scatters, which occurs in the form of several clusters, are spread over half a square kilometer area. A total of 347 specimens were randomly collected measuring 20m x 20m from the eroded surface of uppermost brownish clayey deposit Which are made on chert, quartz, chalcedony, agate, jasper etc. The assemblage composition of microlithic component is indicated in the following table.

Table-3

Artefacts category	**Total Nos.**	**Percentage**	**Unretouched Blank Nos.**	**Percentage**	**Retouched Blanks**	**Percentage**	**Percentage Utilized**
Core	96	27.66					
Flake	187	53.89	156	79.59	31	73.80	16.57
Blade	17	4.89	13	6.63	4	9.52	23.52
Bladelet	23	6.62	18	9.18	5	11.90	21.73
Fragments	-	-	-	-	-	-	-
A-Distal	5	1.44	4	2.04	1	2.38	-
B-Medial	2	0.57	2	1.02	-	-	-
C-Proximal	4	1.15	3	1.53	1	2.38	-
TOTAL	334	96.22					
Debris	13	3.74					
GRAND TOTAL	347	99.96	196	99.99	42	99.99	

4.BANDALA

The Village Bandala is situated in the right bank of river Ranj at a distance of about 3 kilometre form Hirapali. The exact site located about kilometer north of Bandala. And nearly 5ometre distance from the river bank. It has an elevation of 194 mtrs above mean sea level. It lies between 21^0 16' 26.0" N longitudes and 83^0 27' 44.5" E latitude. Thick brownish coloured sandy silty top soil of the site has been eroded. The atefactual scatter of this site spreads over an area of about 100 sq. metres. The site is rich in material remains. A total of 373 artefact was collected from the exposed surface of the site, measuring 15mx15m. The assemblage composition of microlith component is indicated in the following table.

Table-4

Artefacts category	Total Nos.	Percentage	Unretouched Blank Nos.	Percentage	Retouched Blanks	Percentage	Percentage Utilized
Core	71	19.03					
Flake	211	56.56	188	81.38	23	56.09	10.90
Blade	06	1.60	03	1.29	03	7.31	50.00
Bladelet	30	8.04	19	8.22	11	26.82	36.66
Fragments	-	-	-	-	-	-	-
A-Distal	4	1.07	3	1.14	1	2.43	-
B-Medial	9	2.41	7	3.03	2	4.87	-
C-Proximal	12	3.21	11	4.76	1	2.43	-
Total	343	91.92					
Debris	30	8.04					
Grand Total	373	99.96	231	99.82	41	99.98	

5. BANDHPALI

The site Bandhpali is located about 3 kilometre North of the left bank of river Ranj and about 8 kilometres west of the Barpali township. The site is located on the eroded gravelly surface of a rocky mound near the village. It has elevation of 244 mtrs above mean sea level. It lies between 21^0 12' 36.1" N longitudes and 83^0 31' 59.9" E latitude. The artefactual scatter of this site spreads over an area of about 25 sq. metres. The nearby area of the site is destroyed due to cultivation. A total of 441 artefacts were collected randomly from the eroded surface of the rocky

knob measuring 10m x 10m. At this site artefacts of the microlithic components are made variously on chert, chalcedony, agate and quartz of fine and milky variety. The macro assemblage as well as list of various tool type represented at the site is given in the following table.

Table-5

Artefacts category	Total Nos.	Percentage	Unretouched Blank Nos.	Percentage	Retouched Blanks	Percentage	Percentage Utilized
Core	102	23.12					
Flake	247	55.55	200	81.63	47	70.14	19.02
Blade	15	3.40	12	4.89	03	4.47	20.00
Bladelet	34	7.70	17	6.93	17	25.37	50.00
Fragments	-	-	-	-	-	-	-
A-Distal	3	0.68	3	1.22	-	-	-
B-Medial	7	1.58	7	2.85	-	-	-
C-Proximal	6	1.36	6	2.44	-	-	-
Total	414	93.39					
Debris	27	6.12					
Grand Total	441	99.51	245	99.96	67	99.98	

6.RAKSA

The site of Raksa is located near the right bank of the Ranj. It is situated about 9 kilometer south of the site Bandhpali and half kilometer north of the village Raksa. It has elevation of 172 mtrs above mean sea level. It lies between 21^0 08' 44.2" N longitudes and 83^0 31' 51.8" E latitude. The artefactual scatters in the form of small clusters were found exposed on the eroded surface of the loose sandy silty deposit. The lithic scatters spread over an area of 100sqmtrs, of which only 20mx 20m surface area, selected for random sampling. A total of 269 specimens were collected which are made of chert and quartz. The assemblage composition of microlith component is indicated in the following table.

Table-6

Artefacts category	Total Nos.	Percentage	Unretouched Blank Nos.	Percentage	Retouched Blanks	Percentage	Percentage Utilized
Core	47	17.47					
Flake	145	53.90	123	73.87	22	66.66	15.17

Blade	14	5.20	11	6.87	03	9.09	18.75
Bladelet	24	8.92	17	10.62	07	21.21	28.00
Fragments	-	-	-	-	-	-	-
A-Distal	1	0.37	1	0.62	-	-	-
B-Medial	4	1.48	4	2.50	-	-	-
C-Proximal	5	1.85	4	2.50	1	3.03	-
Total	240	89.19					
Debris	29	10.78					
Grand Total	269	99.97	160	99.99	33	99.99	

7. RABANGUDA

The village Rabanguda is situated about 7 kilometers southeast of Bandhpali on the right bank of the river Ranj. It has elevation of 170 mtrs above mean sea level. It lies between 21^0 07' 34.2" N longitudes and 83^0 32' 23.7" E latitude. The exposed section of the river at this place contains a gravel deposits. The artefactual scatters in the form of small clusters were found exposed on the eroded surface of the loose sandy silty deposit. The lithic scatters over an area of 50 sq. metres. Random sampling of artefacts was done from a small area measuring 15mx15m which yielded a total of 218 specimens. At this site also artefacts of the microlith component are made on red chert, chalcedony and quartz. The macro assemblage as well as list of various tool type represented at the site is given in the following table.

Table-7

Artefacts category	**Total Nos.**	**Percentage**	**Unretouched Blank Nos.**	**Percentage**	**Retouched Blanks**	**Percentage**	**Percentage Utilized**
Core	60	27.52					
Flake	106	48.68	97	85.08	09	60.00	8.49
Blade	07	3.21	03	2.63	04	26.66	57.14
Bladelet	09	4.12	08	7.01	01	6.66	11.11
Fragments							
A-Distal	2	0.91	02	1.75	-	-	
B-Medial	2	0.91	02	1.75	-	-	
C-Proximal	3	1.37	02	1.75	01	6.66	
Total	189	86.69					
Debris	29	13.30					
Grand Total	218	99.99	114	99.99	15	99.98	

During the course of our field survey, we have collected microlith components made on red chert, black chert, green chert, chalcedony and quartz from different sites. These microlith assemblages includes various geometric and non-geomatric tools. Tool typology of various sites are shown in the following table.

Table-8 Tool Typology

Sl. no	Tool Types In flake	SITES							Total
		Chichinda	lebri	Hirapali	bandala	Bandh Pali	Raksa	Rabanguda	
1	Side scrapper	12	5	2	2	3	3	2	29
2	End Scrapper	2	-	-	-	4	-	-	6
3	Transverse scrapper	3	1	3	2	1	1	-	11
4	Notch	11	6	4	3	7	5	-	36
5	Denticulate	4	3	4	3	5	4	2	25
6	Double denticulate	2	-	1	1	3	-	-	7
7	Denticulated top	2	-	-	-	-	1	-	3
8	Awl	3	-	-	-	-	-	-	3
9	Borer	1	-	-	-	1	-	-	2
10	Marginally retouched	3	3	2	2	4	2	2	18
11	Partially Retouched	5	4	4	2	5	2	-	22
12	Transverse scrapper +Notch	1	-	1	2	1	-	-	5
13	Awl+ Marginally retouched	3	-	-	-	-	-	-	3
14	Axial Dihedral Burin	1	2	1	1	2	-	1	8
15	Offset Burin at butt	1	1	-	-	2	1	-	5
16	Offset Dihedral Burin	-	1	1	4	1	-	1	8
17	Concave side scrapper	-	2	-	-	3	2	-	7
18	Lunate	-	-	1		2	-	-	3
19	Retouched top	3	-	6		3	1	1	14
20	Tranchet	-	-	1	1	1	-	-	2
	Total	57	28	31	23	47	22	9	217

Table-9

Sl. no	Tool Types In Blade	SITES							Total
		Chichinda	lebri	Hirapali	bandala	Bandhpali	Raksa	Rabanguda	
1	Side scrapper	1	-	1	-	1	2	1	6
2	End Scrapper	-	-	1	-	-	-	-	1
3	Notch	1	2	-	-	-	1	-	4
4	Denticulate	-	1	-		-	1	1	3
5	Borer	-	-	-	-	1	-	-	1
6	Marginally retouched	2	1	1	-	-	-	2	6
7	Partially Retouched	2	1	-	1	-	-	-	4
8	Axial Dihedral Burin	-	-	1	1	-	-	-	2
9	Offset Burin at butt	-	1	-	-	-	-	-	1
10	Offset Dihedral Burin	1	-	-	1	-	-	-	2
11	Isosceles	-	-	-	-	1	-	-	1
	Total	7	6	4	3	3	4	4	31

Table-10

Sl. no	Tool Types In Bladelet	SITES							Total
		Chichinda	lebri	Hirapali	bandala	Bandhpali	Raksa	Rabanguda	
1	Side scrapper	-	-	-	1	2	1		4
2	End Scrapper	-	1	1	-	-	-	-	2
3	Transverse scrapper	-	-	-	-	1	-	-	1
4	Notch	-	1	-	2	-	1	-	4
5	Denticulate	1	-	1	1	-	2	-	5
6	Obliquely truncated top	-	-	-	-	1	-	-	1
7	Borer	-	-	-	-	2	2	-	4
9	Marginally retouched	-	1	1	1	-	1	-	4

10	Partially Retouched	-	1	-	-	-	-	-	1
11	Offset Burin at butt	-	-	1	-	1	-	-	2
12	Offset Dihedral Burin	1	-	-	-	-	-	-	1
13	Backed Bladelet	1	1	1	1	-	-	1	5
14	Scalene	1	-		1	2	-		4
15	Isosceles	1	-	-	-	-	-	-	1
16	Lunate	1	-	-	1	4	-	-	6
17	Pointed convex backed	-	1	-	3	4	-	1	9
	Total	6	6	5	11	17	7	2	54

Discussion and conclusion:-

The above description of Microlithic assemblages clearly demonstrates that these are not only wide spread but also well represented in the Ranj valley of the Bargarh uplands. It should be noted that they all share many common characteristic which bind them together and justify treatment as belonging to the culture complex, while the individual features of the different assemblages may treated as intra assemblage and inter assemblage regional variation. The common feature among the discussed assemblage may be noted in the following.

All the surface scatters are associated with a brownish colored sand-silty-clayey deposit. Although various artifact classes of different assemblages vary considerably in size, the mean size exhibits general agreements with that of the total debitage of microlithic assemblages. It may also be noted there that in spite of the occurrence of a sizeable proportion blades, true blade cores are either absent or rare. It seems likely that other the removal of a few blades from the respective core, these might have been used subsequently for bladelet production. Typo-technologically, the assemblages of the Ranj valley are dominated by various tools, in which Side scrapper formed the majority. Besides they also contain relatively high proportion of various type of burins, Denticualted and notched tools. Among the typical microlithic form, like lunates, trapezes and triangles, high as well as low backed point and lunate clearly predominate.

On the basis of the presence or absence of heavy duty tool component, the Microlithic industries of Orissa may be categorized broadly into two groups. The sites belonging to Group-I are mostly characterized by geometric of non-geometric microlithic assemblages without pebble tools. The sites in the Group-II include those with evidence for both geometric as well as non- geometric microlithic assemblage and heavy-duty pebble tools. In view of the above, at least from the point of view of techno-typology the assemblages recovered by us from the Ranj valley may kept in the proposed group-I industries. However , we are fully aware of limitation of our own data, as most of the evidence comes from the surface investigation. Therefore , there is a clear need to undertake further in intensive survey and scientific excavations of select sites and detailed material examination, which only can provide a regular body of evidence for understanding various aspect of the cultural system of the prehistoric communities of the Bargarh upland.

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