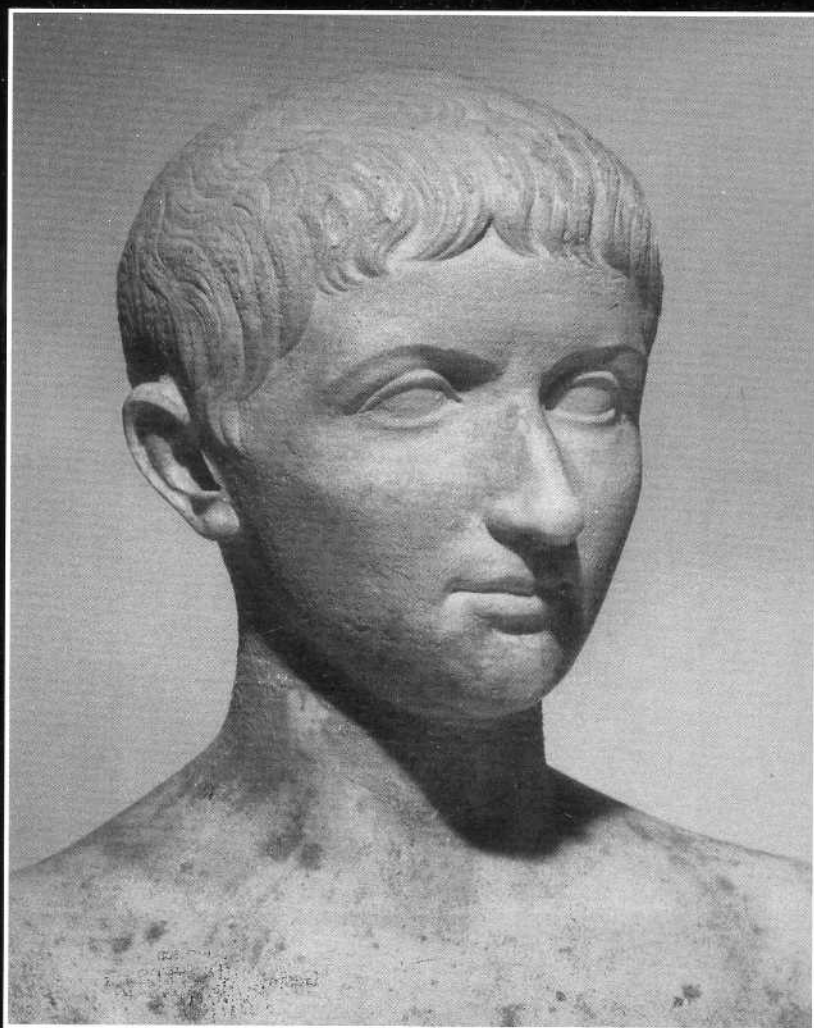


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THE EARLY HOLOCENE LITHIC ASSEMBLAGES OF SINDH (PAKISTAN)

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PREFACE

Preliminary surveys carried out in the surroundings of the town of Thari, in the Thar Desert by members of the Joint Rohri Hills Project, have revealed the presence of Mesolithic, early Holocene, stations on the top of the sand dunes that border the salt lakes that characterise the region (Fig. 1). The first discovery of a Mesolithic site in the area was made in March 1995, when a rich lithic assemblage, including trapezoidal arrowheads, was collected from the surface of a fixed dune facing the lake of Sāin Sim (BIAGI and KAZI, 1995).

Nevertheless Mesolithic stations were already known in lower Sindh since the discoveries made in the thirties by Commander K.R.U. Todd inside the County Golf Club, along the course of the Lyari River, some 13 km. north-north-east of Karachi (TODD and PATERSON, 1947) and those of Prof. Abdur Rauf Khan around the Karachi University Campus (KHAN, 1979a); while the assemblage summarily described by B. ALLCHIN (1979: 198; 1985: 132) from the Tharro Hills near Gujo (MAJUMDAR, 1934: 21), from which come some geometric tools, is most probably to be ascribed to the Amrian and to the Harappan Cultures (FAIRSERVIS, 1971: 175; KHAN, 1979b: 71; MUGHAL, 1998: 205).

THE MESOLITHIC STATIONS OF THE THAR DESERT

As mentioned above, the first site to be discovered was that of Lunwāro Sim 1 (LS1), from which an assemblage of 462 artefacts obtained from Rohri Hills flint was collected from the southern slope, close to the top, of a sand dune facing the lake of Sāin Sim. The flint industry was scattered over a surface of some 2000 square metres. It included, among the other instruments, one bladelet core (Fig. 2, n. 1), one short end scraper (Fig. 2, n. 2), one marginal double truncation of hypermicrolithic dimension (Fig. 2, n. 3) and five isosceles trapezes chipped from bladelets (Fig. 2, nn. 4-8) (BIAGI and KAZI, 1985).

The surveys carried out in January 1999 along the shores of lake Lunwāro Sim (Fig. 3), led to the discovery of another Mesolithic site located on the top of the south-western dune that delimits the basin to the south (LS2). Its coordinates are 27°01'30" Lat N. and 68°39'12" Long E.

The assemblage collected from the surface includes a few geometric microliths, among

which are a backed blade and truncation (Fig. 2, n. 9) a probable lunate (Fig. 2, n. 10) a truncated bladelet (Fig. 2, n. 11) and two microburins, one proximal (Fig. 2, n. 12) and one distal (Fig. 2, n. 13). The location of the site is exemplified in the profile of Fig. 4. The flint assemblage comes from the top of a stabilized dune some 13 m. high, while the present surface of the lake basin lies some 10 metres below the sea level. Along the eastern shore of the lake, a sand terrace was observed 1 metre above the present shoreline in the exact location of 27°02'02" Lat N. and 68°40'00" Long E. Several freshwater molluscs belonging to the species *Parreysia triembolus* (Benson) (K. THOMAS, pers. comm. 1999) were collected from the top of this terrace indicating the presence of an ancient shoreline. A sample of these bivalves was submitted for radiocarbon dating to the University of Groningen. They produced a result of 2460 ± 50 BP (GrN-24967). Even though this date needs to be corrected for the reservoir effect and the reservoir effect for the area is absolutely unknown, it is interesting to observe that the lake table has most probably fluctuated through the time and that other samples are to be collected and dated in order to understand the variations in the extension of the lake basin in historic and prehistoric times.

The above-mentioned locations are very similar to that recorded at Pir Nago. Here, along the southern sand dune cordon that delimits the eastern side of the lake, a flint assemblage was collected in January 2000. This assemblage is composed of 128 artefacts chipped from Rohri Hills flint. Among these are one microbladelet with abrupt retouch along the left side (Fig. 2, n. 19) and one backed point with abrupt retouch on the right side (Fig. 2, n. 18). From the surface of this dune comes also one peculiar elongated arrowhead of rhombic shape, obtained from a bladelet with semi-abrupt, marginal retouch on the dorsal face and simple, inverse, bilateral retouch at the proximal edge (Fig. 2, n. 17). This tool, whose age is undoubtedly not Mesolithic, is very peculiar. It does not find any parallel in the flint assemblages so far recorded from Sindh, even though it is rather similar, but not identical, to a bladelet arrowhead from Kot Diji (CLELAND, 1987: 100, f).

Two more scatters of flint have been discovered along the same dune some 300 metres north of PN1. They both yielded very poor flint industries, even though one of them, called PN2 might be ascribed to the Mesolithic because of the presence of a discoid microflakelet core. Nevertheless more intensive surveys are necessary to define the cultural attribution of these latter assemblages.

Along the north eastern edge of the lake, on a terrace lying between 3 and 4 metres above the present shoreline a concentration of freshwater molluscs was collected to be identified and then radiocarbon dated in order to define the age of this shoreline. The identification of the sample is still in progress by Dr. K. Thomas of the Institute of Archaeology, UCL.

The last lake summarily surveyed in February 2000 was that of Jamāl Shāh Sim, some 8.5 km. northeast of Thari. A very quick visit to the eastern shores of this lake has demonstrated that the last Mesolithic hunter-gatherers had settled this basin. A rich station was discovered along the eastern shore of the lake along the slope of a fossil dune covered with *kankar*, a cemented crust of sand grains. This pedological situation is identical to that recorded for some Mesolithic sites of the Thar Desert of Rajasthan (GOUDIE, 1973: 31; HEDGE, 1977). It is a further proof that the sand dunes were already stabilized by the beginning of the Holocene, when the last hunter-gatherers settled in the region.

As already suggested by SINGH (1971) on the basis of his observations near the Shanbhar Lake in eastern Rajasthan, the sand dunes that surround it were undoubtedly stabilized after 9250 BP. Given the short time at our disposal most of the finds were left *in situ* for future research. This site, labelled JS1 is rich in microlithic tools such as the backed points of Fig. 2, nn. 15 and 16.

The complete, unretouched artefacts of the assemblages collected from LS1, LS2 and PN1, have been measured in order to develop the typometrical diagrams of Fig. 5, following BAGOLINI's (1968) method. This mathematical analysis has produced very similar results for all the three assemblages taken into consideration (see table 1, below).

TABLE 1

Category	Limits	Sites					
		LS1 (199)		LS2 (125)		PN1 (70)	
		n.	%	n.	%	n.	%
	Elongation indexes						
Very narrow blades	>6	0	0.0	0	0.0	0	0.0
Narrow blades	6-3	7	3.5	3	2.4	0	0.0
Blades	3-2	19	9.5	19	15.2	7	10.0
Blade-like flakes	2-1.5	36	18.1	24	19.2	20	28.6
Flakes	1.5-1.0	72	36.2	37	29.6	18	25.7
Wide flakes	1.0-0.75	37	18.6	33	26.4	17	24.3
Very wide flakes	0.75-0.50	26	13.1	8	6.4	8	11.4
Extremely wide flakes	<0.50	2	1.0	1	0.8	0	0.0
	Dimensional indexes						
Hypermicroliths	>8	1	0.5	0	0.0	0	0.0
Macroliths	8-6	12	6.0	10	8.0	1	1.4
Normoliths	6-4	57	28.7	37	29.6	14	20.0
Microliths	4-2	119	58.3	72	57.6	49	70.0
Hypermicroliths	<2	13	6.5	6	4.8	6	8.6
	Carination indexes						
Hyperflat	>8	1	0.5	2	1.6	2	2.9
Very flat	8-4	83	41.7	53	42.4	35	50.0
Flat	4-2.5	88	44.2	52	41.6	25	37.1
Thick	2.5-2	19	9.6	10	8.0	5	7.1
Carinated	2-1.5	5	2.5	8	6.4	1	1.4
Very carinated	1.5-1	3	1.5	0	0.0	2	2.9
Hypercarinated	<1	0	0.0	0	0.0	0	0.0

All the three assemblages have produced dimensional indexes characterised by a very high percentage of microliths, followed by normoliths and by hypermicroliths or, in the case of LS2, by macroliths. The carination indexes are always indicative of a technology with a very strong tendency towards the production of flat and very flat artefacts that, together, always represent more than 80% of the total manufacture. This pattern seems to characterise the Mesolithic assemblages of Sindh. The measurement of numerous Early and Late (Upper) Palaeolithic (BIAGI *et al.*, 1996; 1998) and Harappan assemblages (BIAGI and PESSINA, 1994; NEGRINO *et al.*, 1996) from the Röhri Hills obtained following the

