

**AEOLIAN SCRIPTS  
NEW IDEAS ON THE LITHIC WORLD  
STUDIES IN HONOUR OF VIOLA T. DOBOSI**

EDITED BY  
KATALIN T. BIRÓ, ANDRÁS MARKÓ, KATALIN P. BAJNOK



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Katalin T. BIRÓ, András MARKÓ, Katalin P. BAJNOK

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# NEANDERTHALS AT THE SOUTH-EASTERNMOST EDGE: THE SPREAD OF LEVALLOIS MOUSTERIAN IN THE INDIAN SUBCONTINENT

PAOLO BIAGI – ELISABETTA STARNINI

**Keywords:** *Levallois Mousterian, Middle Palaeolithic, Homo neanderthalensis dispersal, Sindh, Indian Subcontinent*

## *Preface*

Several main intriguing questions are of major interest studying the prehistory of the early humans. After the spread of *Homo ergaster* from Africa northwards into Europe, and eastwards into Asia,<sup>1</sup> the next challenging enigma regards the dispersion of Neanderthals from Europe to the east. Despite the fact that skeletal remains of *Homo neanderthalensis* are rare in Central Asia<sup>2</sup>, the Levallois Mousterian lithic technology<sup>3</sup> that characterises the Middle Palaeolithic chipped stone industries produced by Neanderthals and, regarding the Levant, also by early modern humans,<sup>4</sup> is known indeed, starting from the Iberian Peninsula, to Siberia and China.<sup>5</sup>

Anatomical distinctiveness and relative early divergence from other *Homo sp.*, supported by mtDNA evidence, suggest that Neanderthal lineage probably began its evolution as far back as 600 ky ago,<sup>6</sup> although classical Neanderthals are considered only those living during the last Ice Age in Europe, from roughly 100 ky to 35 ky ago, or more broadly in Eurasia from some 200 ky, “before mysteriously disappearing some 28,000 years ago”.<sup>7</sup> At present the Mousterian assemblages

thought to have been produced by Neanderthals have been subdivided into 20 different facies.<sup>8</sup>

According to recent climatic reconstruction,<sup>9</sup> during the Pre-Hengelo cold/dry events of the OIS 3, southern Europe was covered with a grass steppe. This means that two main routes were possibly utilised by human groups living in Europe to reach the easternmost Eurasian regions and the Indian Subcontinent: the land bridge connecting the Balkans to Anatolia, and/or the corridor along the northern Black Sea shore, although also a southern route, across the plain of the -at that time dissected Persian/Arabian Gulf,<sup>10</sup> should be taken into consideration, given the increasing evidence of Palaeolithic discoveries along the Yemen-Oman coastal belt,<sup>11</sup> which suggest that the Middle Palaeolithic human dispersal was much more complicated than previously suggested.<sup>12</sup> However, a question mark constantly recurs on the maps depicting our current knowledge of the Indian Subcontinent<sup>13</sup> in relationship to the spread of *Homo sp.*

The present paper is an attempt to discuss the current evidence of human occupation in a region of the Indian Subcontinent, the Lower Sindh (Pakistan) during the Middle Pleistocene, which is demonstrated by the recovery of chipped stone assemblages with evident Levallois Mousterian characteristics (**Fig. 3**).<sup>14</sup>

<sup>1</sup> CAVALLI SFORZA–PIEVANI 2013.

<sup>2</sup> VIOLA 2009.

<sup>3</sup> SELLET 1995.

<sup>4</sup> SHEA 2006; BAR-YOSEF 2006, 317.

<sup>5</sup> BAR-YOSEF–PILBEAM 2000; BAR-YOSEF–WANG 2012

<sup>6</sup> KRINGS et al. 1997.

<sup>7</sup> ZILHÃO 2010a.

<sup>8</sup> CLARK–RIEL-SALVATORE 2006, Table 1.

<sup>9</sup> DAVIES et al. 2000.

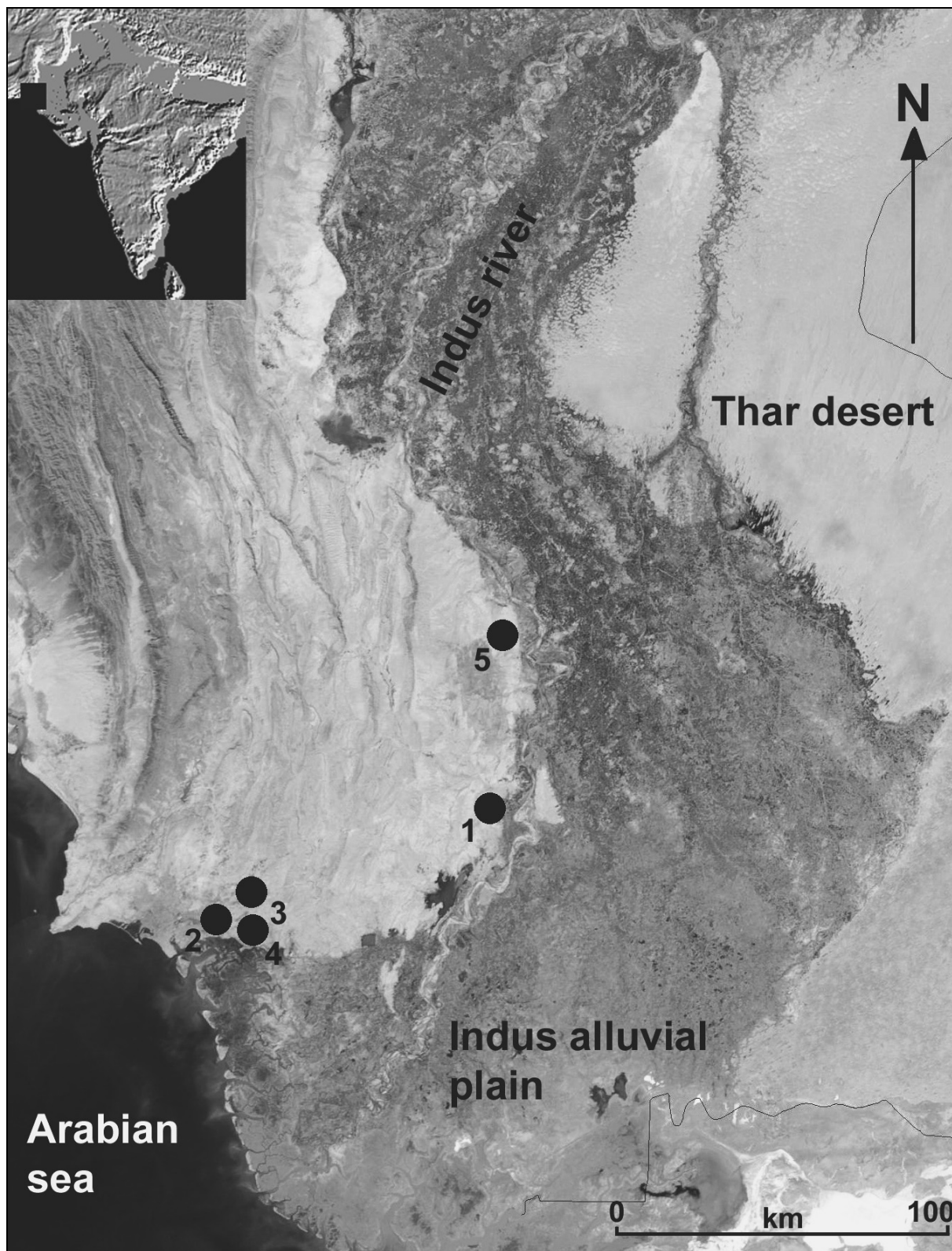
<sup>10</sup> ROSE 2007; ARMITAGE et al. 2011.

<sup>11</sup> ROSE 2004; AMIRKHANOV 2006.

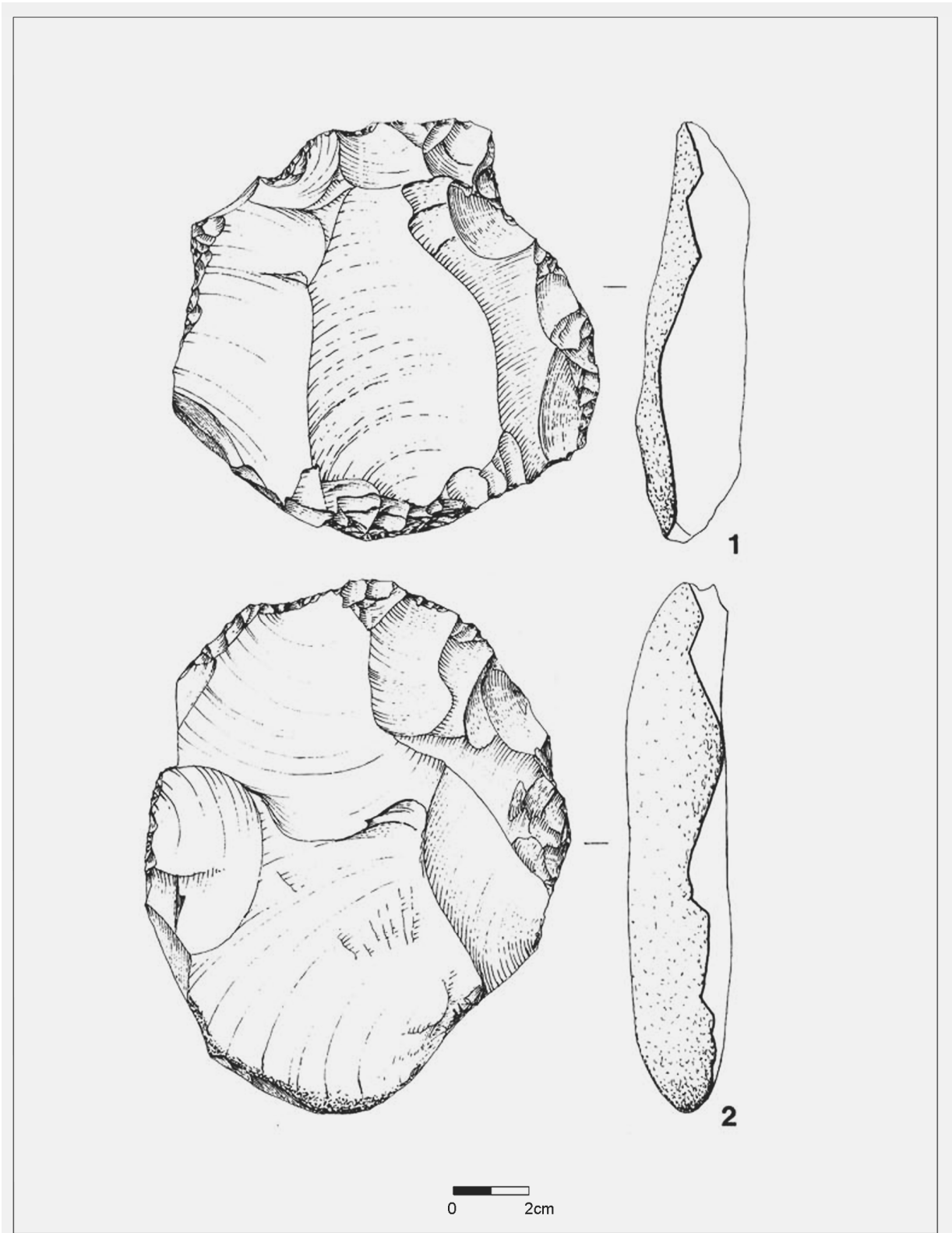
<sup>12</sup> PETRAGLIA 2007; SCERRI et al. 2014.

<sup>13</sup> HENKE 2006, Abb. 4.

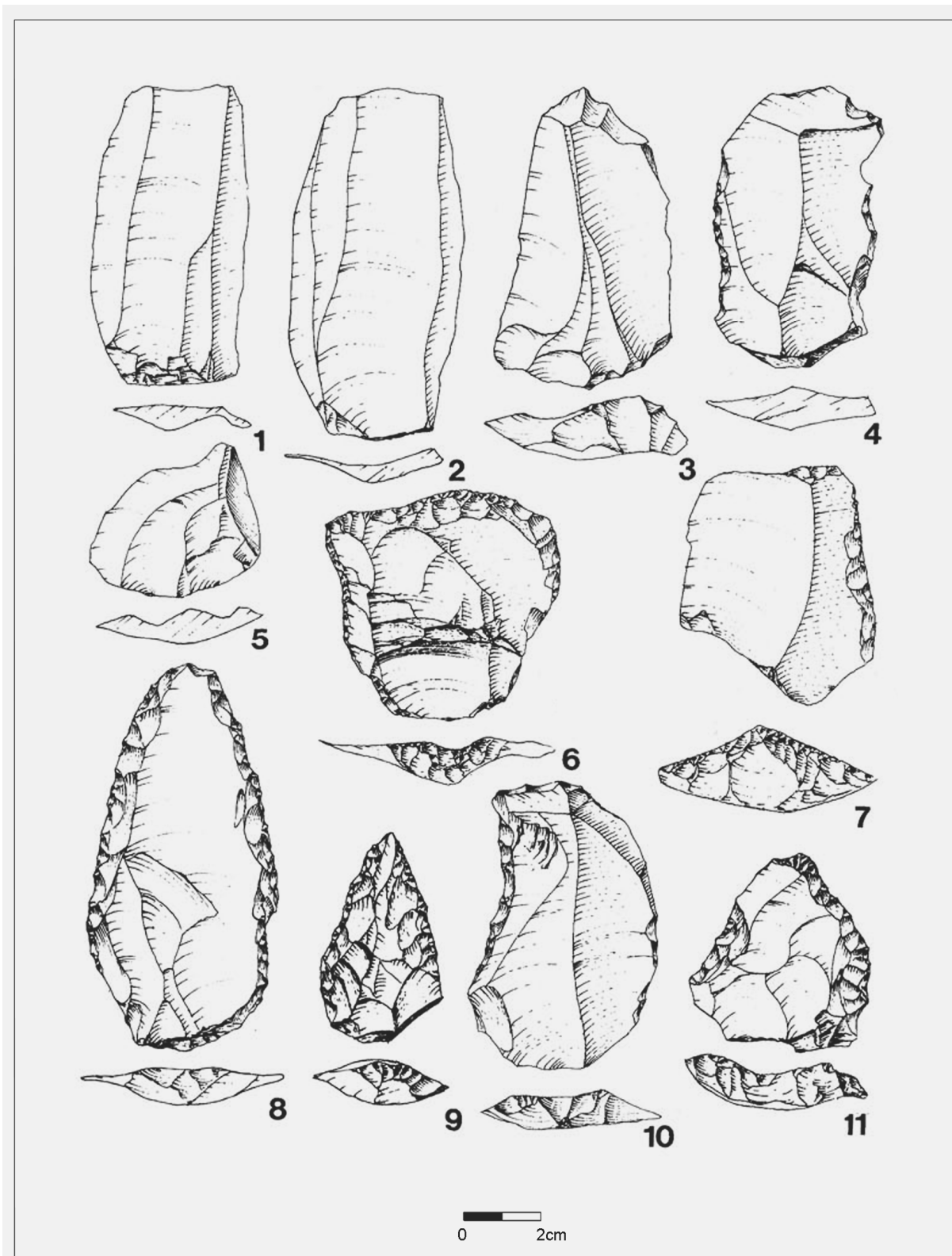
<sup>14</sup> BIAGI–STARNINI 2014.



**Fig. 1.** Distribution map of the Levallois Mousterian sites, or single tools, so far discovered in Lower Sindh. Ongar (1), Mulri Hills, Karachi (2), Deh Konkar (3), Landhi (4), Arzi Got (5)

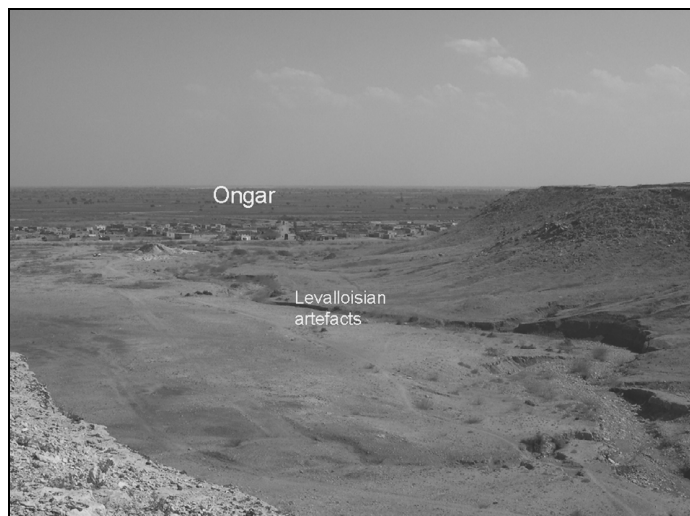


**Fig. 2.** Ongar: Levallois cores from A.R. Khan's collection (from *BIAGI* 2006, fig. 2.)

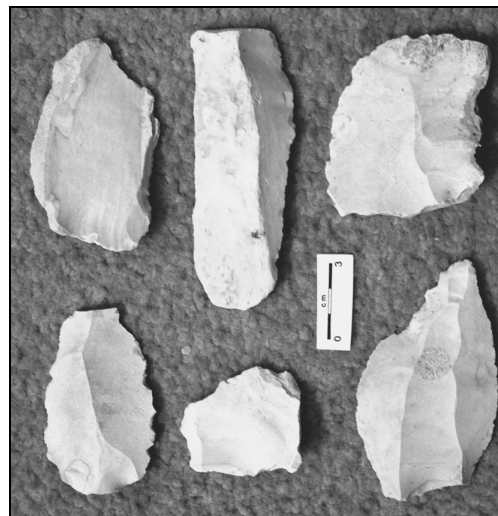


**Fig. 3.** Ongar: Levallois artefacts from A.R. Khan's collection (from BIAGI 2006, fig. 4)





**Fig. 4.** Ongar: the area that yielded Levallois artefacts (re)discovered in 2006 (photograph by P. Biagi)



**Fig. 5.** Ongar: Levallois flakes and blades from the 2006 (re)discovered area (photograph by P. Biagi)

### ***Middle Pleistocene lithic technology in the Indian Subcontinent***

The research carried out during the last decade in the Indian Subcontinent and Arabian Peninsula has greatly contributed to achieving a better knowledge of the Middle Palaeolithic in the study region, and answering a few questions as to the origin and suggested provenance of the Middle Palaeolithic assemblages,<sup>15</sup> their chronology,<sup>16</sup> variable structural composition and cultural affiliation.<sup>17</sup>

Following a traditional view, in the Indian Subcontinent “the Acheulian slowly evolved into the Middle Palaeolithic by shedding some of the tool types and by incorporating new forms and new techniques”.<sup>18</sup> Given its characteristics, some authors do not include it in the Mousterian complexes,<sup>19</sup> while others attribute the Middle Palaeolithic assemblages of peninsular India to the Nevasian.<sup>20</sup> Nevertheless, where long sequences are known, the Middle Palaeolithic layers are stratified between Early Palaeolithic (Acheulian) and Late (Upper) Palaeolithic (so-called microlithic) complexes,<sup>21</sup> following a sequential terminology proposed more than 50 years ago.<sup>22</sup> They have been recently subdivided into three main developmental phases,<sup>23</sup> from most of which

the typical Levallois reduction technique is almost absent.

According to the few absolute dates so far available, Middle Palaeolithic complexes are represented in the region since roughly 150 ky, while the Late (Upper) Palaeolithic ones make their appearance at least just after 40 ky from the present,<sup>24</sup> although the dispersal of modern individuals, following a coastal route, is suggested to have taken place some 10 ky before<sup>25</sup> or even earlier<sup>26</sup> despite scarce archaeological evidence.<sup>27</sup> The problem related to the makers of the Middle Palaeolithic tools is still debated,<sup>28</sup> mainly because of the absence of fossil human remains of this period in the entire Subcontinent.<sup>29</sup>

One of the most important issues consists of the south-easternmost spread of the Neanderthals and their associated Mousterian assemblages that is so far badly defined. Although typical Levallois Mousterian industries are known from south-eastern Arabia,<sup>30</sup> Iran,<sup>31</sup> Afghanistan,<sup>32</sup> and former Soviet Central Asia,<sup>33</sup> they are almost unknown in the Indian Subcontinent, except for a few surface sites in Lower Sindh and the Indus Valley,

<sup>15</sup> PETRAGLIA–ALSHAREKH 2003; ROSE 2010.

<sup>16</sup> PETRAGLIA et al. 2007.

<sup>17</sup> PANT–JAYASWAL 2013.

<sup>18</sup> MISRA 2001, 495.

<sup>19</sup> ALLCHIN et al. 1978, 314.

<sup>20</sup> KHATRI 1962; ALLCHIN–ALLCHIN 1997, 55–60.

<sup>21</sup> HANNAH–PETRAGLIA 2005; PETRAGLIA et al. 2009.

<sup>22</sup> SUBBARAO 1956; ALLCHIN 1959.

<sup>23</sup> PAL 2002, 79.

<sup>24</sup> MISHRA 1995.

<sup>25</sup> FIELD et al. 2007.

<sup>26</sup> BULBECK 2007.

<sup>27</sup> BEYIN 2011.

<sup>28</sup> HASLAM et al. 2010.

<sup>29</sup> STOCK et al. 2007.

<sup>30</sup> CREMASCHI–NEGRINO 2002.

<sup>31</sup> PIPERNO 1972.

<sup>32</sup> DUPREE et al. 1970; DAVIS 1978.

<sup>33</sup> RANOV–GUPTA 1979.

which have been discussed in a recent paper.<sup>34</sup> Furthermore the more recent studies seem to support the impression that “*the early Middle Palaeolithic (or Middle Stone Age) of India and Nepal probably developed indigenously*”,<sup>35</sup> which suggests the existence of a distinctive boundary between the west and the east marked by the axis of Indus river valley, that according the evidence discussed in the next paragraph might represent the south-easternmost limit of Neanderthals expansion.

### ***The Levallois Mousterian finds from Lower Sindh***

Levallois assemblages are known from a few localities of Lower Sindh (**Fig. 1.**),<sup>36</sup> the most important of which is Ongar (otherwise known in the literature as Milestone 101<sup>37</sup>), discovered by W.A. Fairservis Jr.,<sup>38</sup> and later published by B. Allchin. On its limestone terraces she discovered Palaeolithic assemblages and workshops of different periods, among which are Middle Palaeolithic ones.<sup>39</sup> The area was revisited by A.R. Khan in the early 1970s, when the sites were being destroyed due to the opening of limestone quarries for industrial exploitation. During his rescue visits Professor A.R. Khan collected an impressive quantity of Palaeolithic tools, among which are Levallois cores, (retouched) Levallois points, one typical Mousterian point (**Fig. 3.**), wide blades, flakes and different types of side and transversal scrapers (**Figs. 2. and 3.**). The above author was the first to signal “*the presence of the Levalloisian industry in the area beyond any doubt*”<sup>40</sup> in Sindh.

After studying some of the finds collected by A.R. Khan in the Museum of Prehistory and Palaeogeography, Karachi University, one of the authors (PB) systematically surveyed the Ongar region between 2005 and 2008.<sup>41</sup> Although it was impossible to define the precise locations of the spots from which A.R. Khan collected Levallois Mousterian implements, identical chipped stone assemblages, characterised by a thick, white patina, were recovered from the upper profile of the terraces of a seasonal stream that flows eastwards, from the limestone mesas down to the village and the national road (**Fig. 4.**).

These latter finds, which are represented exclusively by Levallois flakes and blades, are also covered with a thick white patina, although they show a few *concassage* detachments due to a certain shifting from their original deposition (**Fig. 5.**).

Other typical, small Levallois assemblages, or isolated finds, come from the region immediately to the east of Karachi: among them are the Mulri Hills, Landhi, Deh Konkar<sup>42</sup> and the Laki Range.<sup>43</sup> One more characteristic Levallois flake was found on the surface of a limestone terrace, close to the Baloch village of Arzi along the national road, north of Hyderabad.<sup>44</sup>

All the Levallois assemblages so far recovered from Lower Sindh come from the region west of the course of the Indus. Although other Palaeolithic sites are known from this province, the richest of which are the Rohri Hills,<sup>45</sup> it is important to point out that none of the Palaeolithic industries from these latter sites, all located along the eastern bank of the Indus, ever yield any typical Levallois tool.

### ***Discussion***

Recent research carried out on the skeletal fossil remains of Europe strongly supports the designation of Neanderthals as a separate species, i.e. *Homo neanderthalensis*, which gave no contribution to the evolution of modern Europeans.<sup>46</sup> Also from the point of view of the lithic techno-typology and the use of raw materials, an abrupt change can be noticed in Eurasia at the onset of the Aurignacian, which has no connections with the Levallois Mousterian techno-typology, supporting the idea of the systematic replacement of Neanderthals with anatomically modern humans. Although we have to consider that the pattern at present available from the best investigated areas, i.e. central-western Europe and the Levant, cannot be necessarily applied to other territories,<sup>47</sup> the general situation is still far from being clear and is rather controversial.<sup>48</sup> If we move from the Levant farther to the east, toward the Indian Subcontinent, the picture is even more complicated, due to the absence of human fossil remains<sup>49</sup> and limited fieldwork.<sup>50</sup>

The Middle Palaeolithic assemblages of India are often attributed to the Nevasian.<sup>51</sup> Recently they have been subdivided into two main groups whose appearance has been radiometrically dated to some 150 ky from the present.<sup>52</sup>

The archaeological evidence gathered in the last years by the Italian expedition in Sindh has contributed

<sup>34</sup> BIAGI 2006.

<sup>35</sup> DENNELL 2009, 144.

<sup>36</sup> BIAGI-STARNINI 2014.

<sup>37</sup> ALLCHIN 1976, 486.

<sup>38</sup> FAIRSERVIS 1975, 77.

<sup>39</sup> ALLCHIN 1976.

<sup>40</sup> KHAN 1979b, 80.

<sup>41</sup> BIAGI 2005; BIAGI-FRANCO 2008.

<sup>42</sup> KHAN 1979a, 13.

<sup>43</sup> BIAGI 2008.

<sup>44</sup> BIAGI 2010.

<sup>45</sup> ALLCHIN 1976; NEGRINO-KAZI 1996.

<sup>46</sup> HARVATI et al. 2006.

<sup>47</sup> KUHN-HOVERS 2006.

<sup>48</sup> ZILHÃO 2010b.

<sup>49</sup> STOCK et al. 2007.

<sup>50</sup> PANT-JAYASWAL 2013.

<sup>51</sup> SANKALIA 1956.

<sup>52</sup> MISRA 1989.

to fill the gap, and shed some light on the south-easternmost distribution of the Levallois Mousterian complexes.

The Levallois assemblages discovered in Sindh, which display very characteristic features, among which are faceted and “*chapeau de gendarme*” butts, can be attributed to Middle Palaeolithic human activity in the area, most probably related with the south-easternmost spread of *Homo neanderthalensis*. This species might have reached the Indian Subcontinent either from the Anatolia-Caucasus-Mesopotamia corridor, or across the southern regions of the Arabia Peninsula, where Levallois Middle Palaeolithic sites are known to date.<sup>53</sup> The reason why their spread most probably did not go beyond the Indus delta might be caused by a geographic barrier, as it has already been suggested for the dispersal of modern humans along the western coastline of the Indian Subcontinent.<sup>54</sup>

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<sup>53</sup> PETRAGLIA–ALSHAREKH 2003.

<sup>54</sup> STOCK et al. 2007, figure 1.

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