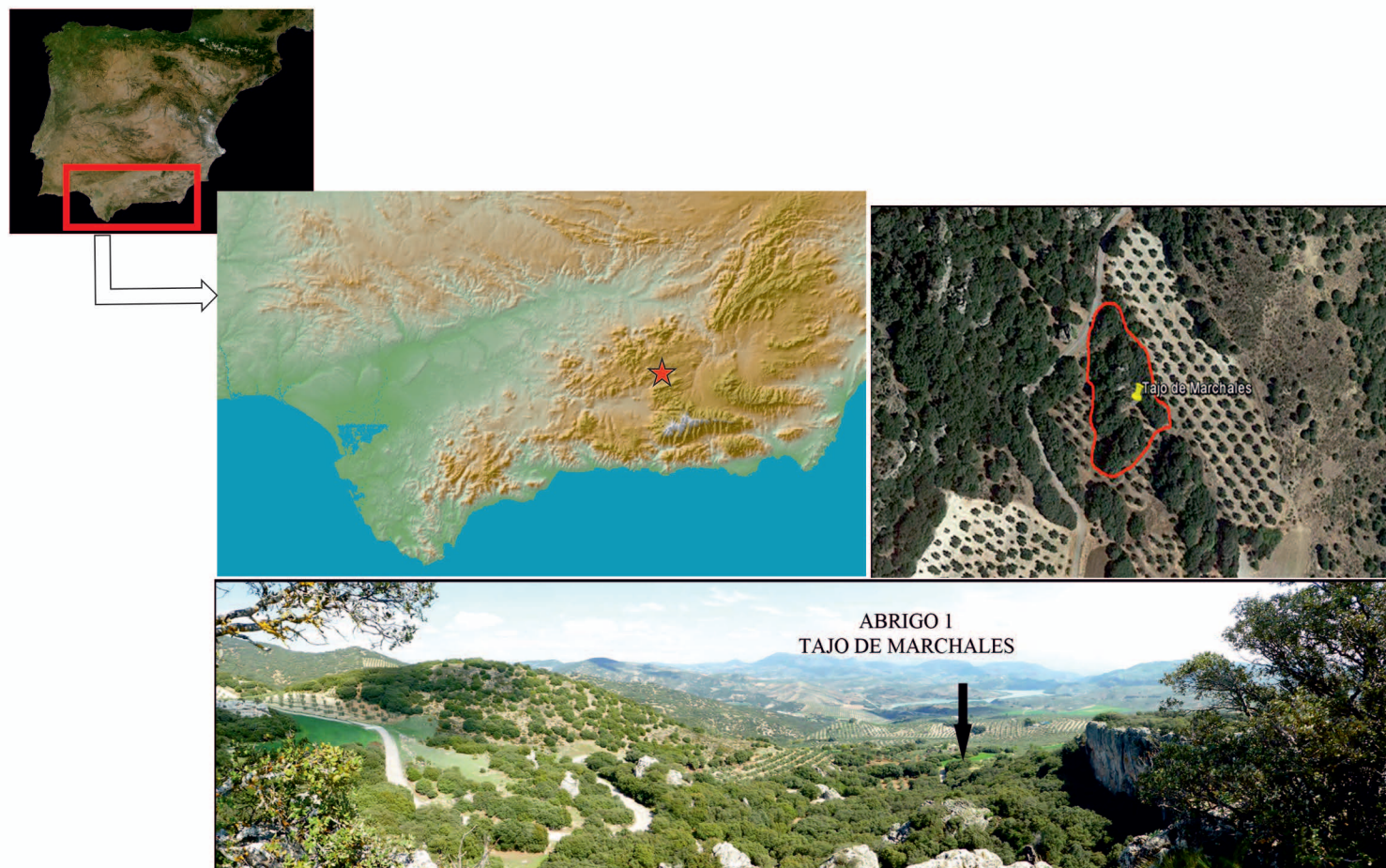


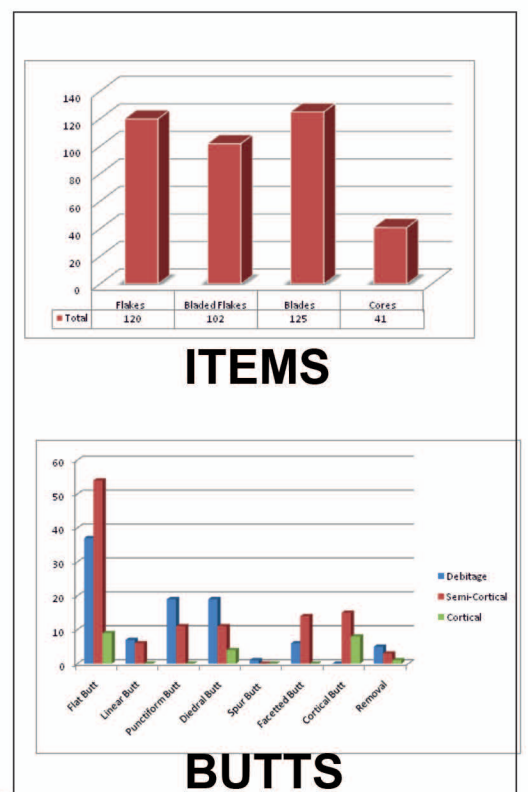
# CHAÎNE OPERATIVE AND BLADE TECHNOLOGY FROM THE UPPER PALEOLITHIC SITE OF MARCHALES (GRANADA, SPAIN)

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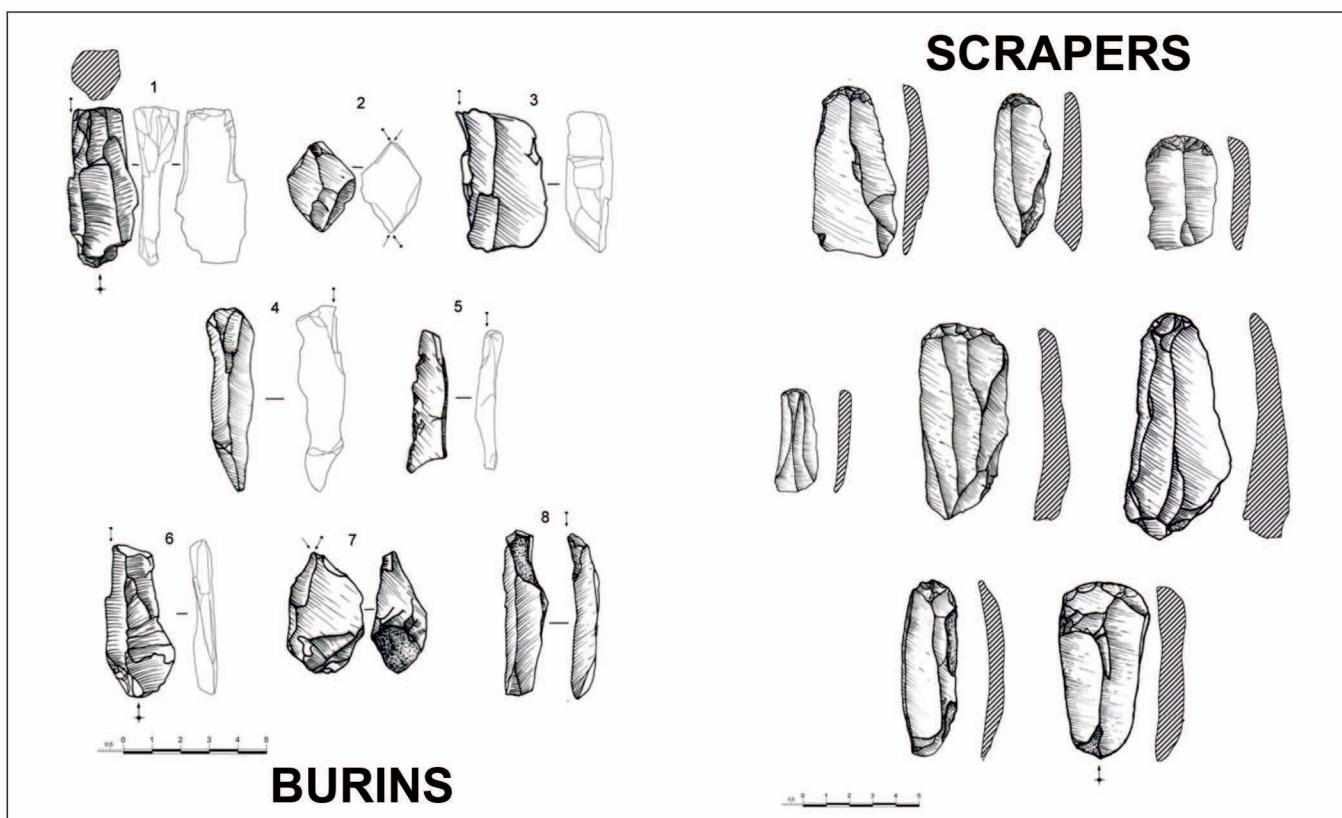


The study of the Upper Paleolithic of southern Iberian Peninsula is often approached from a few stratigraphic sequences recognized in the region. We can say that the Upper Paleolithic in Andalusia is one of the worst known stages of regional prehistory. On the other hand, its development has just passed the descriptive typological formal characterization. In some cases the latest contributions in the central region of the Betic Cordillera circumscribed to Granada were made during the past century. In this sense, this work has two aims. First, we present the rock shelter of Marchales (Colomera, Granada, Spain) as a new Magdalenian site from the mountainous area of the Subbetic Andalusia. Furthermore, by applying the diacritical analysis on core, flakes and other lithic objects recognizable.

The archaeological site comes from a rock shelter of small size located in the Tajos de Marchales (Colomera, Granada). This is a new site recently discovered. This shelter has been affected by the result of agricultural work. The set studied has been collected from surface, recovering 832 objects. Despite the lack of chronostratigraphic context, the typological and technological analyses by reconstituting chaîne opérative and principles of diacritical schemas (Inizan et al. 1999, Baena and Cuartero 2007), concludes in technological homogeneity of the assembly and global understanding of their knapping methods.

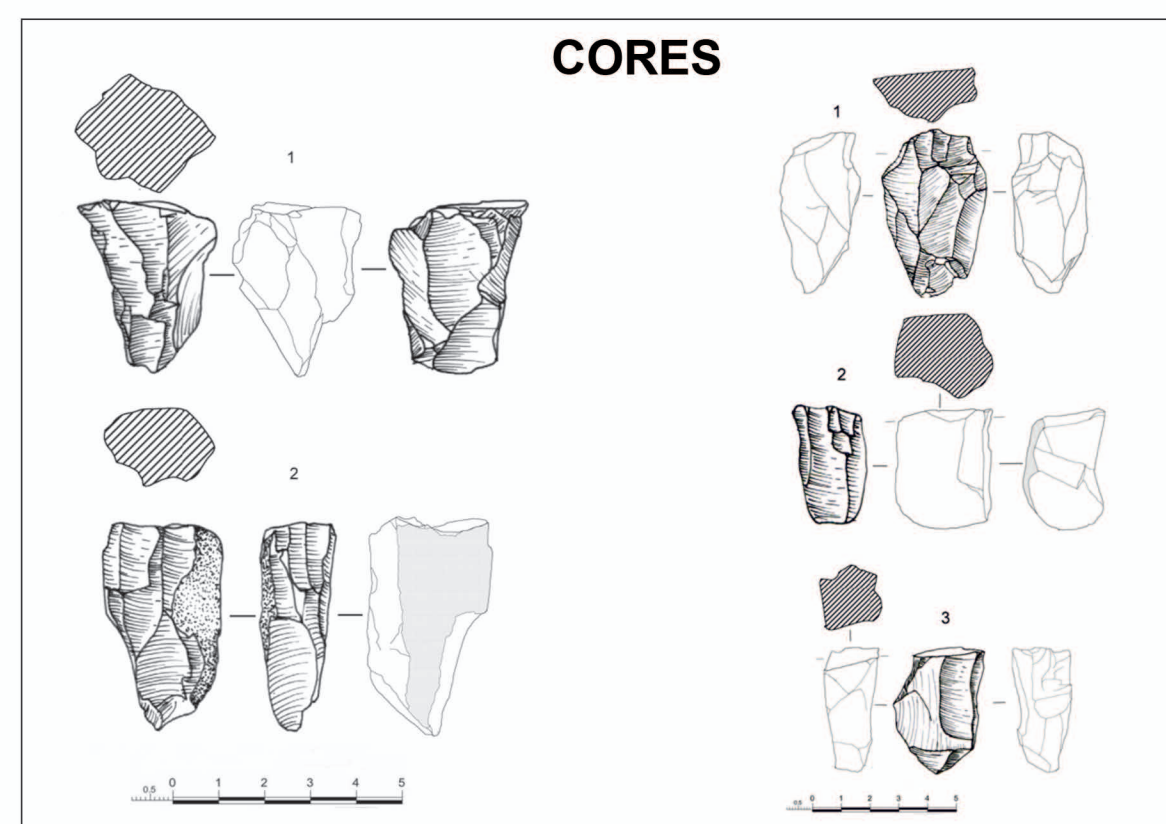


## TYOLOGICAL ANALYSIS



The set consist of cores (41- 4,92%), debitage that are formed by flakes, bladed flakes and blades (347 -41,70%) debris and chunch.

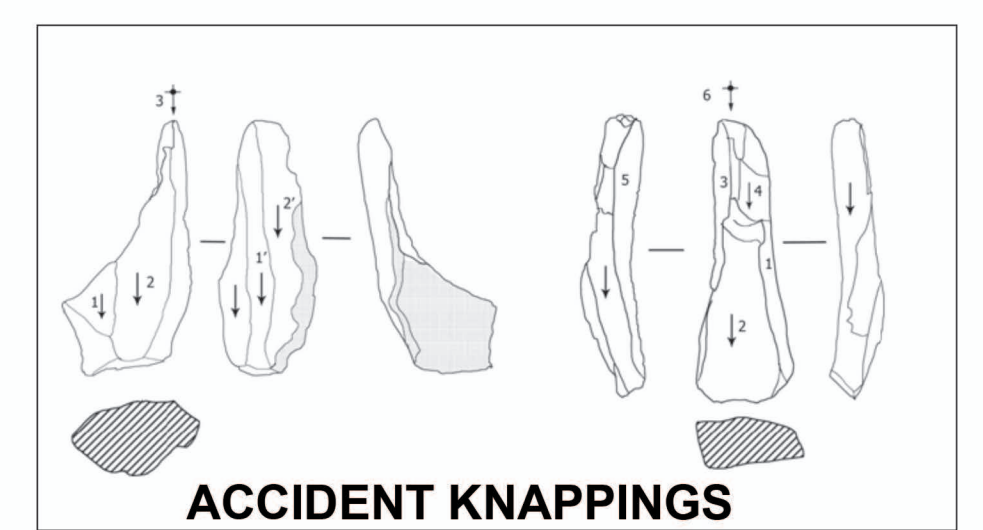
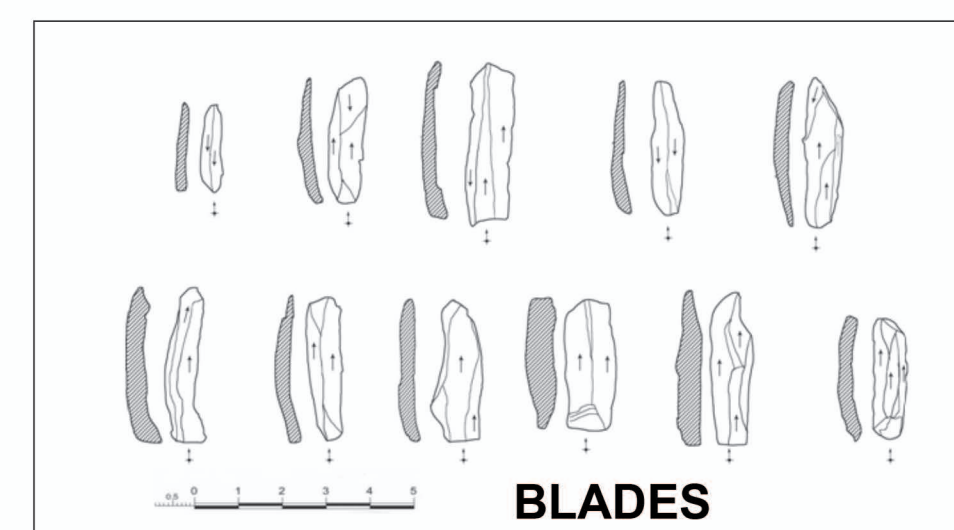
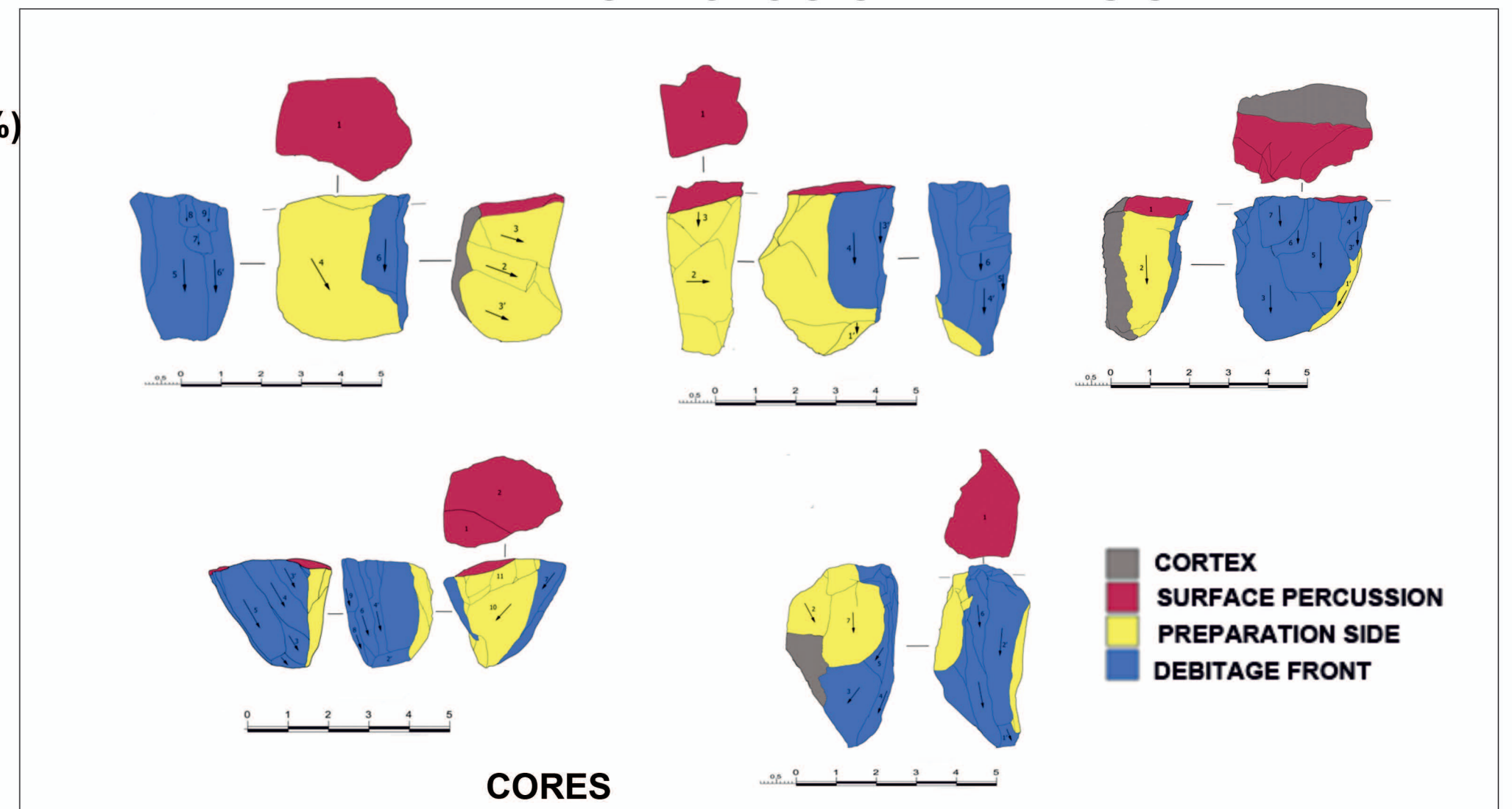
The typological analysis shows the burins as a quantitatively superior typological group (20,87 %), followed by scrapers (10,98 %). On a lesser percentage appear other groups as the notches (4,39 %) and denticulates (14,28 %). The set is completed with the backed blades, bladelets and points (13,18%).



The diacritical analysis done on core and debitage products reflects a method of bladed uni and bipolar knapping, with front progression cores. Besides some core-like burin which have been obtained narrow bladelets.

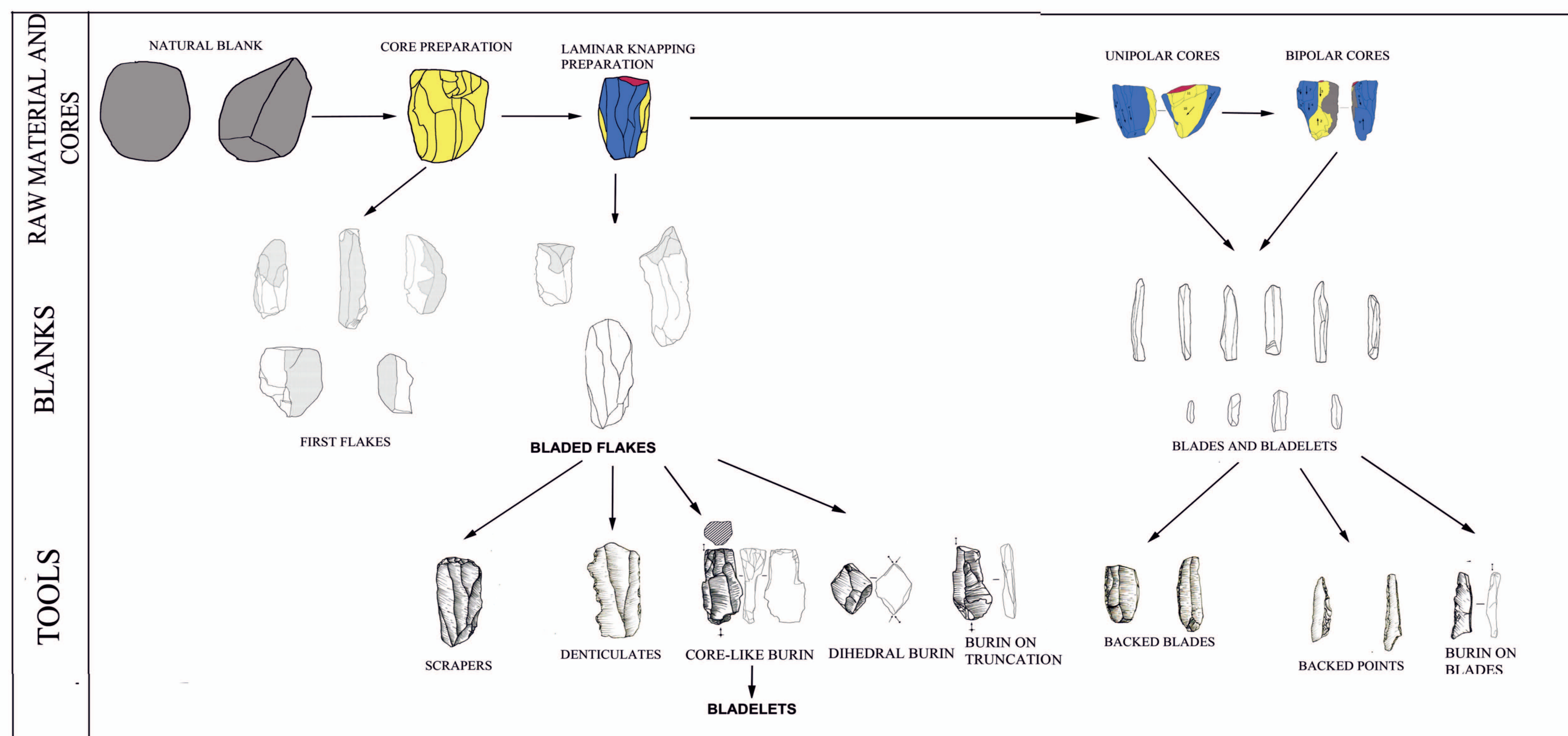
The analysis of the lithic assemblage of Marchales been able to identify the different phases of the operational chain of the tools manufacture on blades and bladelets. The analysis of cores, blanks and retouched blanks allow synthesizing three groups inside a technological unit process:

## TECHNOLOGICAL ANALYSIS



1. The wider and thicker blanks in the early stages of the preparation of blade core are intended basically for the production of scrapers and denticulates.
2. The exhaustive blade cores knapping, aims to obtain bladed blanks (blades and bladelets) that by backed retouched are produced backed blades and points. The indices of backed retouched material is the 13,18 %.
3. Burin facets are obtained by blanks belonging to flakes (6,59%) bladed flakes (10,98 %) and blades (3,29%). Within burins groups, we have three main types: core-like burins, dihedral burins and burins on truncation. Due to the high presence of bladelets and blades we hold the hypothesis that some of these types of burins were for obtaining bladelets.

Marchales technological sequence summarizes the inicial stages of the southern Mediterranean Magdalenian Iberia facies post Badegulian as defined in nearby areas (Aura 2007, Aura et al. 2012).



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