

First results on use-wear analysis over several Ancient Neolithic context from Northwest Africa

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The beginnings and development of the Neolithic in North-West Africa is a subject about which little information is available. The archaeological work undertaken in Morocco during the French and Spanish colonial periods was followed by a time of ostracism and neglect until the 1970s, when the team of Professor P. Daugas re-initiated research on the origins of this period in the region. In recent years several Moroccan, German and Spanish teams have also engaged in investigation on this topic. Any contacts, movements or influences that might have existed between groups living on the shores of Africa and Iberia have been systematically ignored. However, the results of recent archaeological research, at several Moroccan sites, have led to new assessments and explanations concerning the Neolithisation process. Epipalaeolithic and Neolithic communities from both shores of the Alboran Sea have been evaluated from a much wider and more complex perspective. This poster presents the first results of the study of lithic industry of the Late Epipalaeolithic to Early Neolithic sites of Hassi Ouenzga, Ifri Oudadane and El Zafrin.

1. Hassi Ouenzga



3. El Zafrin



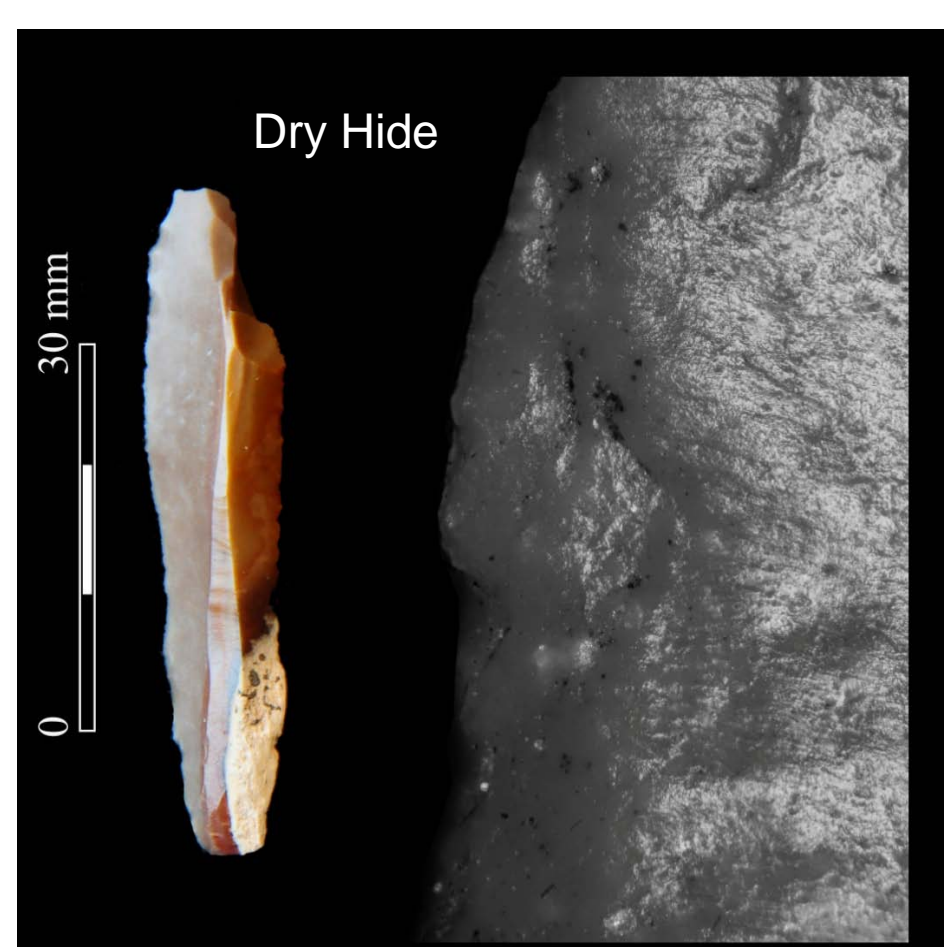
Hassi Ouenzga marks well the Neolithic transition in the hinterland. A Late Epipalaeolithic lithic inventory mixed with Early Neolithic pottery and a lack of domesticated species probably shows a late local hunter-gatherer community in contact with Neolithic groups. This contact phase is dated between 7.6 and 6.8 ka calBP

The more than 2.300 lithic pieces are clearly originated in the local tradition of bladelet orientated industries. Frequent tool types such as points, truncations, notched blades and flakes and pieces with semi abrupt retouch, as well as occasionally occurring microliths, are typical in all Epipalaeolithic sites from the 11th to the 8th millennium calBP.

The lithic assemblage of the Late Epipalaeolithic level provides a single reduction process, devoted to flake and blade production with the configuration of prismatic cores without shaping the platforms. In contrast, the Late Neolithic levels show two reduction processes: blade and flake oriented, using small nodules with no previous removal of the cortex.

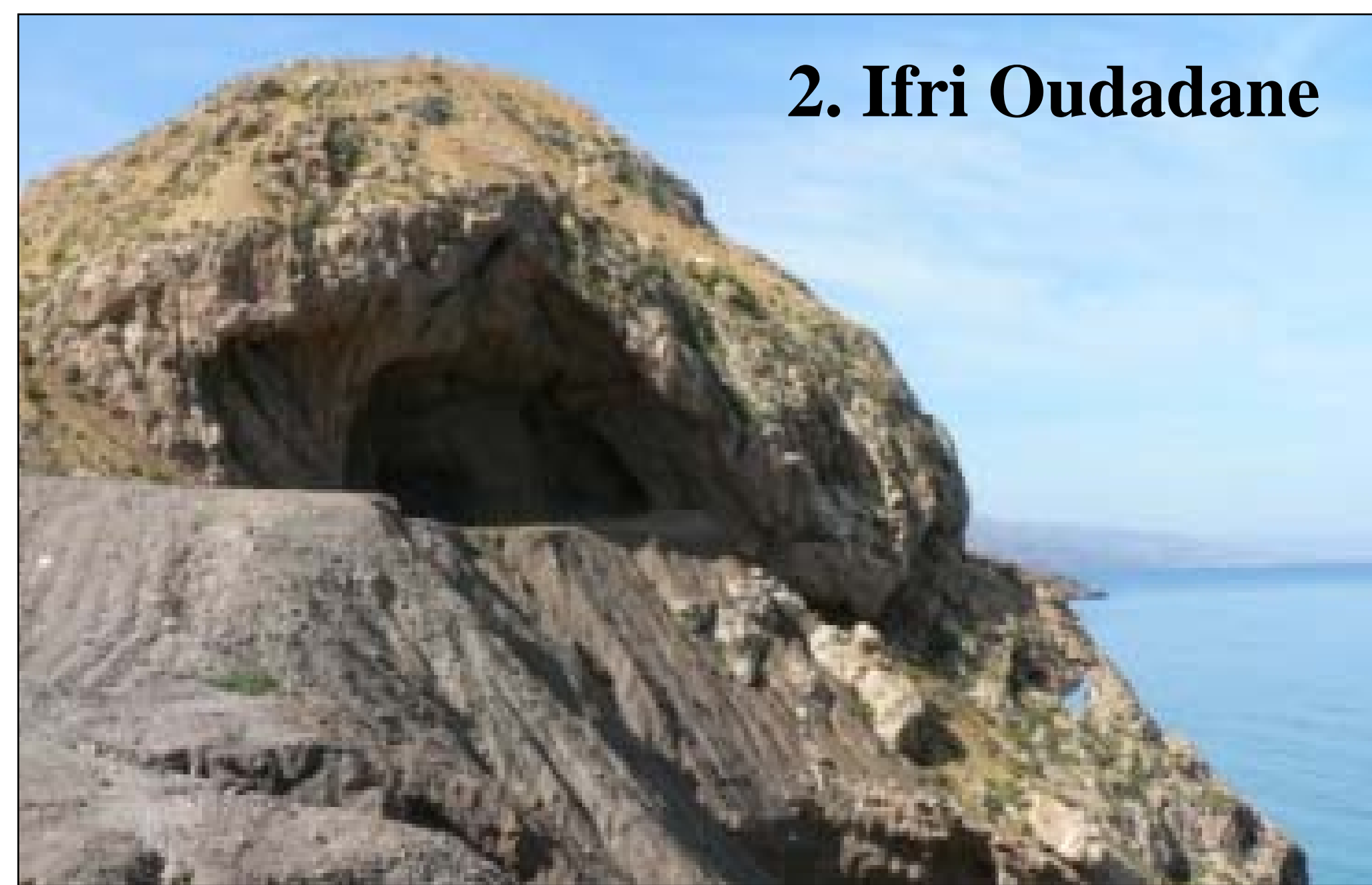


31 of the 39 analyzed pieces, from the "Epipalaeolithic with pottery" – level, presented use modifications. Use-wear analysis shows a clear relationship between the manufactured tools and their task.



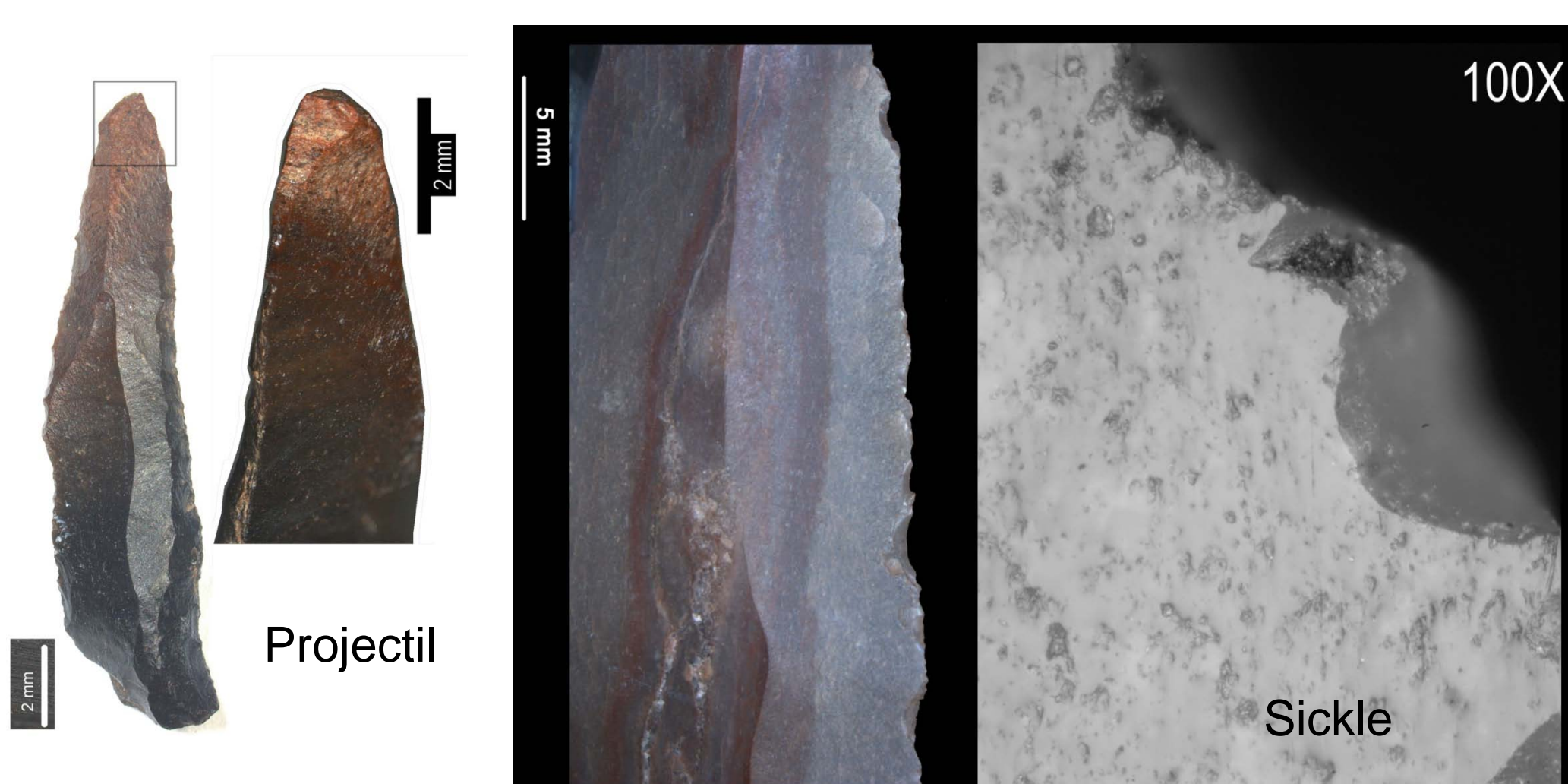
Non retouched, sharp edges blades were selected to cut soft material, such as meat or hide; retouched supports were used to scrape hide; backed bladelets and geometrics served as projectile points and blades/flakes with notches or denticulates worked hard vegetable or animal materials. Anyway, even if the number of analyzed tools is low, we can conclude that the most represented activities in Hassi Ouenzga are related to the procurement (hunting) and the process of animal matters such as meat, hide, bone and antler

2. Ifri Oudadane



Ifri Oudadane is located west of the Melilla Peninsula and 5 km east from the Oued Kert River mouth. The rock shelter is located in a coastal cliff, about 50 m above the present day shoreline. Its 2 m deep deposits can be divided into Epipalaeolithic, Early and Late Neolithic levels, absolutely dated by nineteen ¹⁴C-data. The lithic assemblage is sparse and consists mainly of unspecific flakes. However, some notched flakes and blades, scrapers and typical Epipalaeolithic backed points are present. The Neolithic transition occurred at about 7.6 ka calBP and is very well documented in the stratigraphy by the first appearance of pottery and domesticated species such as cereals, legumes and ovicaprids. Large notched blades indicate changes in the lithic tool production. The Early Neolithic occupation of Ifri Oudadane ended at 6.3 ka calBP (see El Zafrin) due to a general trend of climate degradation affecting all occupation within the arid and semiarid Northern Africa.

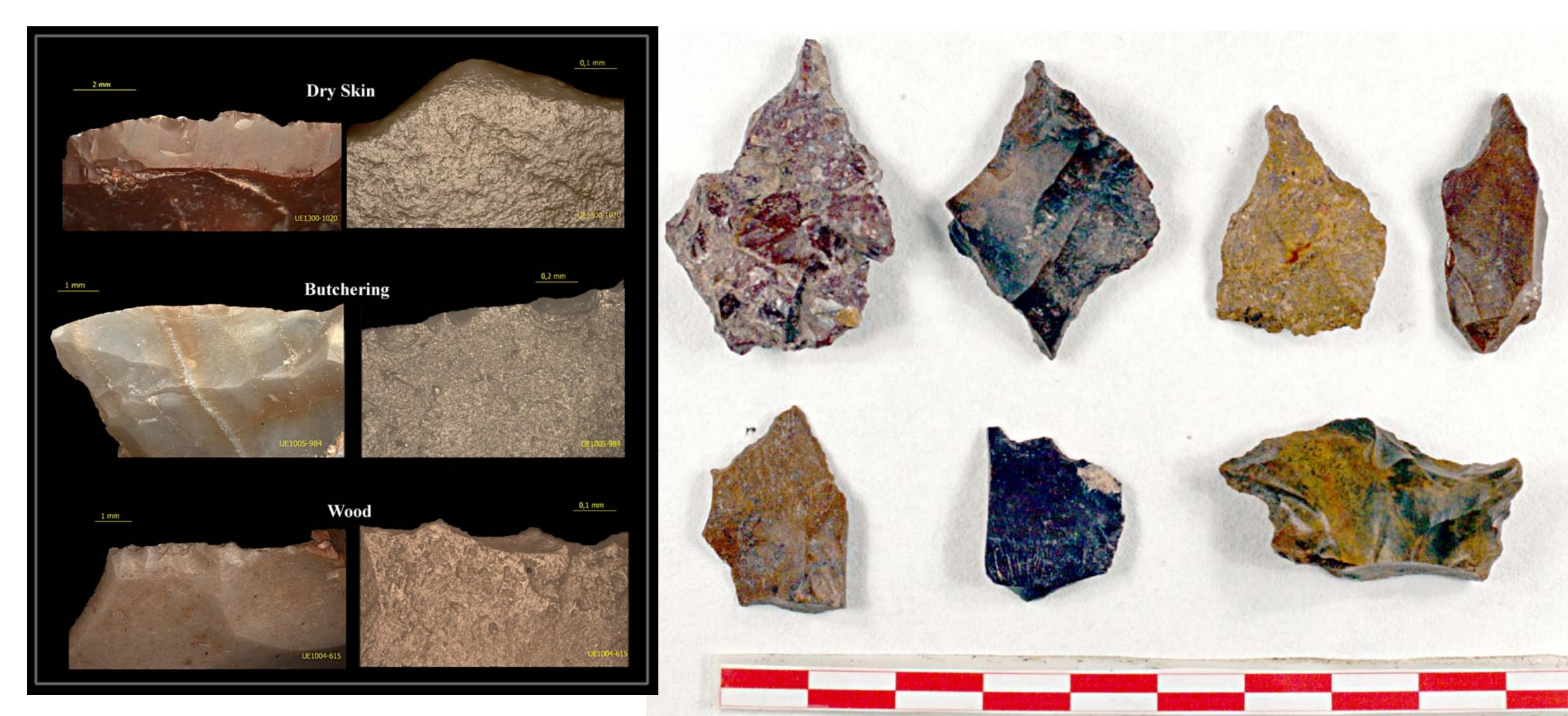
At Ifri Oudadane 76 tools were studied, 45 from the Early Neolithic A (ENA) and 31 from the Early Neolithic B (ENB). Although the pieces from the ENB level are a little more altered, the most outstanding ones are a set of instruments that accomplished several activities that processed animal, vegetable and mineral materials. Mainly the blades and more scarcely the flakes were used for butchery, scraping hide, cutting and scraping wood and non-woody plants, and scraping mineral material. Three backed bladelets served as projectiles.



In none of the three sites sickle pieces in the Early Neolithic were documented. They appeared only in the Late Neolithic of Ifri Oudadane

El Zafrin is located on Isla del Congreso, one of the Chafarinas Islands 3.5 km off the eastern coast of Morocco. During fieldwork in 2004, several structures were identified. They formed part of a larger habitat, including a whole hut. Four ¹⁴C ages have been obtained from samples of domestic fauna. These are all dated in the third quarter of the seventh millennium calBP (6.5-6.3 ka calBP), and therefore this site represents a final stage of the Early Neolithic in the region (ENC). Faunal remains represent farming activity based above all on ovicaprines (*Ovis aries* / *Capra hircus*) and other domestic species (*Canis familiaris*) complemented by hunting monk seals; and gathering cheloniidae, limpets and sea snails. Different rock-types were knapped to manufacture stone implements. The most common type is radiolarite (71%), followed by flint (21%) and other rocks like chalcedony or several varieties of limestone. Flakes were the main objective of all reduction processes. The simple morphotypes predominated, which are characteristic of expedient techniques: notched flakes, denticulates, end-scrapers, side-scrapers and, above all, borers are the most abundant tools.

Macro and microscope analysis were made on 235 artefacts from El Zafrin. Ca. 900 pieces were previously examined with binocular lens in order to establish a first selection. A functional analysis shows that most implements were used with animal substances (meat, skins and bone) and in a fewer proportion were used as projectiles or on vegetable and mineral matter. For a large group of tools, the substance worked cannot be determined precisely, apart from its hardness. In short, it can be said that 5 flakes and 3 blades were used for butchering; and 2 geometrics (segments) exhibit possible impact fractures or striations caused by their use as projectiles.



Concerning hide-working tools, 3 were used for scraping (2 fragmented unretouched flakes and one retouched flake (end-scrapers) and 3 for cutting (2 blades and one flake). 4 broken flakes were used to work bone matter. They were probably used briefly for sharpening or finishing off implements, objects or ornaments, like needles, punches, points, beads and handles. Very steep edges (80°-90°) were selected for these tasks.

One flake was used for cutting, probably non-woody plants, a small retouched flake (end-scrapers) and a possible burin were used for scraping, perhaps wood. 3 pieces must have been used on a very abrasive substance (hide or stone) and/or a very hard one (stone or valve). These are a flake, the concave side of a core, and the apical zone of a borer.