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TYPOLOGICAL AND USE-WEAR ANALYSIS OF FLINT TOOLS FROM TELL MĂRIUȚA, JUDEȚUL CĂLĂRAȘI

Abstract: The assemblage is examined compactly because investigator Mr. Parnic dated all levels in a single period, and considerable part of them occurs from the surface too. The assemblage comprises 241 artifacts. Flint raw material of most of the artifacts is most likely "dobrodjean flint". The use-wear analysis of artifacts from the collection shows that it covers almost the whole domestic production during the Chalcolithic period in which flint tools were used, and the most important of them are present even though in small numbers (tools for working stone, bone and horn). The most part of objects are made of quality flint "Dobrudjean type". The population of this last phase of the settlement has used sparingly each piece of quality flint. It is highly possible the settlement Măriuța also been site who imports quality tools from settlements-workshops situated nearby flint deposits, dwelling of skilled masters flint-knappers. Should also be noted availability of some homework flint tools production.
Keywords: flint tools, use-wear analysis, wear traces.

Tell Măriuța is located Northeast of v. Mariutsa, Kalarash County, in the lower bank terrace of the river Mostista, where a large quantity of pottery fragments and flint tools were gathered. It looks like an ellipse with large diameter of about 50 m and a diameter less than 30 m. The lift of cultural strata is from about 4,2 m and 2,7 m not as stated within. Two cultural levels were identified; both belong to stage B, Gumelnița culture. Studied material originates from the Southern sector of the Tell (top 4 levels, 0 to 0.8 m in dept) which is excavated by Valentin Parnic from Museum of Lower Danube in September 2009. The flint collection is explored in the field; all of artifacts are examined by handheld digital microscope Celestron (20x up to 400x). The assemblage is examined compactly because investigator Mr. Parnic dated all levels in a single period and considerable part of them occurs from the surface too.

The assemblage comprises 241 artifacts. Raw material of most of the artifacts consists of flint in colour grey, grey-yellowish, waxy yellow, with dark spots, no visible cracks and impurities inside. It cannot be claimed with certainty that this material originates from the right bank of the Danube, but regardless of where the deposit is (probably this will be demonstrated by petrography studies in the future)

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most of the tools have the same properties as dobrodjean flint. About 15% (mostly flakes and micro-blades and pestles) are made of different material quality, light grey translucent flint with many dark and light spots, and small micro-cracks and impurities in the material structure. The sources of this type of material are probably riverbeds. Some of the investigated artifacts had been exposed to high temperatures, as an after-effect their colour is changed; the flint is greying and cracking.

At present, there is only one core in the entire collection (0.42%), one core's fragment and two fragments of flint nodules. The core has a pyramidal shape, treated in the perimeter and forged moulding of the surface of cleavage.

Flakes are 29-12.03% of all objects, limestone cortex detected in 17.29% of them. Only 7- (24.14%) of flakes have a length between 40 and 65 mm, and flakes of less than 10 mm were 8- (27.58%). Structure of debris – low percentage of flakes and cores, the lack of large flakes with limestone cortex and the presence of many blades show that in this part of the settlement people were engaged mainly in priming of the ready tools and shaping of the blanks. Also occasionally, they produced individual tools of not very high quality flint, found in local riverbeds.

The great part of the assemblage (Fig. 1) consists of blades – 124 pieces, which is 51.45% of the total number of artifacts. 62.9% of all blades are wider than 20 mm and have regular form. Only one of them is whole, without traces of use. People have used in work specifically segmented blades; the most numerous is the group of middle-sections with straight profile and parallel edges. These blades are used as elements of different composite tools. The separated distal and proximal parts of the blades from this settlement were used for work too.

The group of the typologically distinct tools include 83 pieces – 34.44% of all items. The butts are preserved on only about 20% of the artifacts (flakes, blades, tools and fragments). The reason is not only in the large number of medium-sized parts (sections) of the blades, but also in the fact that most of them were hammered out to confront the profile of the plate, possibly to be placed in the handle. The dominant parts are smaller butts- elliptical, rounded triangle or diamond shaped with almost invisible bulbous, which is one of the alleged signs of knapping by pressure. About ¼ of the butt's platforms are double and multifaceted with a marked bulbous and a tiny defect. In the experimenters opinion this is due to indirect knapping (Girya 1997, p.80-87; Pelegrin, 2002, p. 131-147; Mateva and all 2004,50-55; Skakun 1984,p.83-92; and according to information received by dr. Vitold Migal from Liublin University, Poland).

The identified types of the instruments in the collection are not too variable (Fig.2) and include endscrapers, piercers, knives, one drill, a fragment of bifacial tool (maybe an axe) and pestles. The most abundant is the group of endscrapers, 39.76% of all tools, followed by burins – 18.08% and piercers – 14.46%. Pestles (Fig.3) are 7.23% (6 pcs.). Usually as pestles were used exhausted cores, processed to lie comfortably in the hand of a worker (Mateva.2003 p.75-79; 2004, 55-57;

Mateva in print; Skakun 1984, p.83-92;1999, p. 287-307; 2006; Skakun and all 2005, p.65-68).In the settlement Măriuța cores might have been scarce, even the worn out ones, because people were using as pestles small flint nodules formed from river rubbles, perhaps found nearby watercourses (Fig. 6). Rounded by the water stream, they did not have much need of additional treatment, one or two knock-ups here and there to make it more comfortable for the workers, and a little piketage to prevent cutting your hand on the new sharp edges. Quite remarkable is the presence of two two-combined tools in the collection: burin/endscraper and endscraper/piercer. Using the same tool for several operations has been common practice during the Chalcolithic period, as it will become obvious from the use-wear analysis. However, in spite of all that, typologically differentiated combined tools are very rare. However, here in percentage terms they are 2.41% of all tools.

The additional treatment (Fig. 3) is scarce as a quantity of treated subjects (34.51% of all artifacts). The types of secondary treatment are characteristic for the Chalcolithic – retouching (56.57%), burring spall (26.32%), combined (11.84%) and forge out (piketage) (2.63%) (Skakun 2006, p. 17). From the 43 retouched objects, 42 were treated with steep retouch dull and only one flat retouch on both sides. Combined treatment includes burring spall and steep retouch. There are three types of lateral separation (burring spall) found in this collection- on one side, on both sides, and just one object has it all around its perimeter. In most cases, this type of treatment has served an accommodation purpose, so that the item would not hurt the hand that holds it with its sharp edges. Only several of the artifacts, which account their additional processing defined as burins, have performed this function in reality.

In general, the functions of the objects from this collection overlap only partially with their typological characteristic. From 241 objects, as tools were used only 126 – 103 do not have traces of use and 12 cannot be determined. As endscrapers are typologically differentiated 42 tools, however as endscrapers for leather processing have been used 13 of them. Three endscrapers were used as side scrapers– part of a consisting instrument for leather scraping, two items were combined, both leather-scraper and leather-knife, two were bone-saws, three were used as wood-scrapers, six up as part of the consisting sickle, one as the lateral burin, one as retoucher and the rest of them don't have any traces. There are 15 burins in typological terms, three of them were used as burins for wood-processing, two for bones processing. Two burins were used as leather piercers, one of them as leather – knife, the rest of the 15 burins do not have any traces of use.

Agricultural implements (sickles, reaping knives and grass-knives) are 40.48% in total of the used artifacts from the collection (51 objects), 48 of them are parts of consisting sickles. It is very interesting that three of the blades have two working edges, i.e., when one of them has been worn out, they begun to use the other. Pastoral's tools and hunting weapons in the collection presented leather

processing (scrapers, endscrapers, knives and piercers) and knives for meat cutting, in general, 39.69% of the total number of tools. As quantity in second place are the woodworking tools (saw and burins) 9.52%, and tools for bone/ antler processing- 4.76%. There is only one tool for processing stone and flint; it is one retoucher - 0, 79% of all. Pestles (4.76%) presented in separate group because they are investigated only in the field and it cannot be said with certainty whether they served for grinding seeds and nuts or are they hammers for flint processing.

126 of the articles (Fig.4) have traces of use (52.28% of the entire collection) and typologically differentiated are 55 items (43.65%) and 71 items (56.35%) are used without further processing. Some of them are elements of sickles – 48 items (Fig.7, 1-2), followed by meat knives with one or two working edges – 14 (Fig.7, 4). The use-wear analysis of artifacts from the collection shows that it covers almost the whole domestic production during the Chalcolithic period in which flint tools were used, and the most important of them are present even though in small numbers (tools for working stone, bone and horn). The number of tools linked to agriculture on the one hand, and livestock and hunting – on the other hand – are almost equal (Fig.4/2). The huge amount of harvest tools is noteworthy, so is the almost complete absence of hunting weapons, but there are many tools for processing leather and meat. It figures that the settlement managed to meet its' needs for basic subsistence products without recourse to barter. To jump at conclusions in towards reconstruction of the village economy based on data only from this collection, however, would be possibly quite wrong, partly because of the limited amount of subjects, partly because of the limited horizontal and vertical excavated area. In my opinion there would rather be exhibited the specialization (or on the contrary- unification) of the individual households, if excavations and studies of more homes on that same stratigraphic level are made and on their basis could be marked areas for different activities in a dwelling, jobs etc, in it. At this stage of the study collection of the last, top layer of the tell Măriuța shows clearly that:

1. The population of this last phase of the settlement has used sparingly each piece of quality flint. The tool, now in an unusable quality, has been reshaped and used in another to wear out completely. E.g.: sickle parts: some of which has processed as leather-scrapers and as wood processing scrapers (planes). The presence of combined tools and implemented tools with several functions is an evidence for it, too.

2. The most part of objects are made of quality flint "Dobrudjean type". They were separated from the cores skilfully, have small butts platforms and unexpressed bulbous- a sure sign for the use of an advanced for its time technology. People have not been using all of the available "good" instruments; some of them had been kept unused, so that they could replace the instruments that were completely damaged.

A similar situation and similar characteristic of artifacts is observed in many settlements of Kodjadermen-Gumelnitza-Karanovo VI culture from the same period (Mateva 2003, 2004; 2009, p.350-356; Gurova 2001, p.38-47; 2011, p.179-196; Skakun 1999; 2006) therefore researchers to define them as settlements-users of flint production.It is highly possible the settlement Măriuța also been site who imports quality tools from settlements-workshops situated nearby flint deposits, dwelling of skilled masters flint-knappers. Should also be noted that, there is an untypical for the end of the Late Chalcolithic period trend – people begun using a considerable amount of poor quality flint, perhaps dragged from the rivers, used to obtain medium-sized blades and flakes. This is a trend rather typical for the Neolithic period (Angelova, Bin 1988, p.16-33; Gatsov 1985, 1990, p.91-101; 1992, p.196-199).

It would be interesting to explore the reasons for this phenomenon and it is likely to clarify some aspects of the tribal and intercultural relations on both sides of the Danube during the Chalcolithic period.

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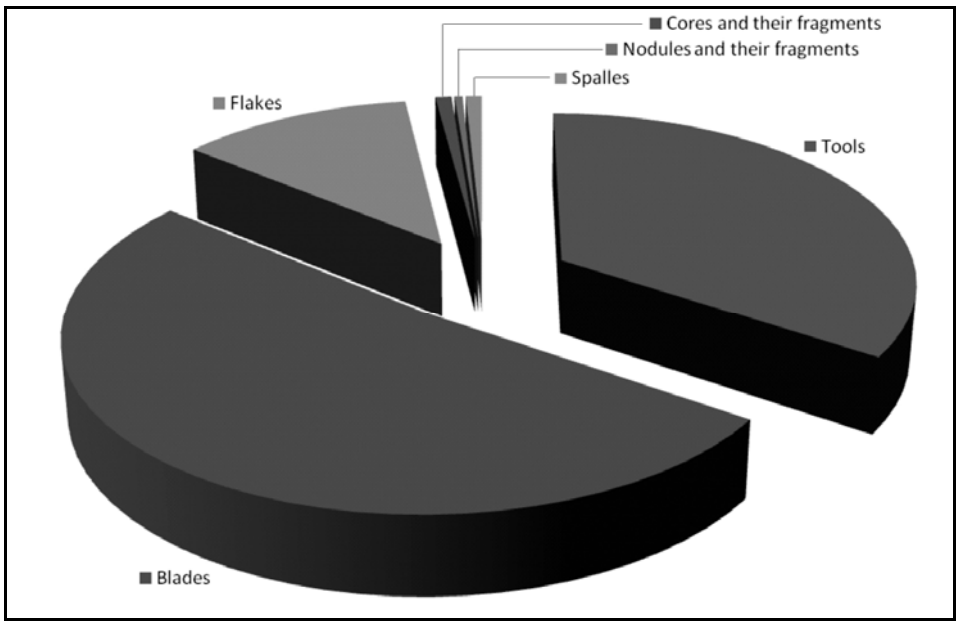

Fig. 1. Typological characteristic of flint artifacts.

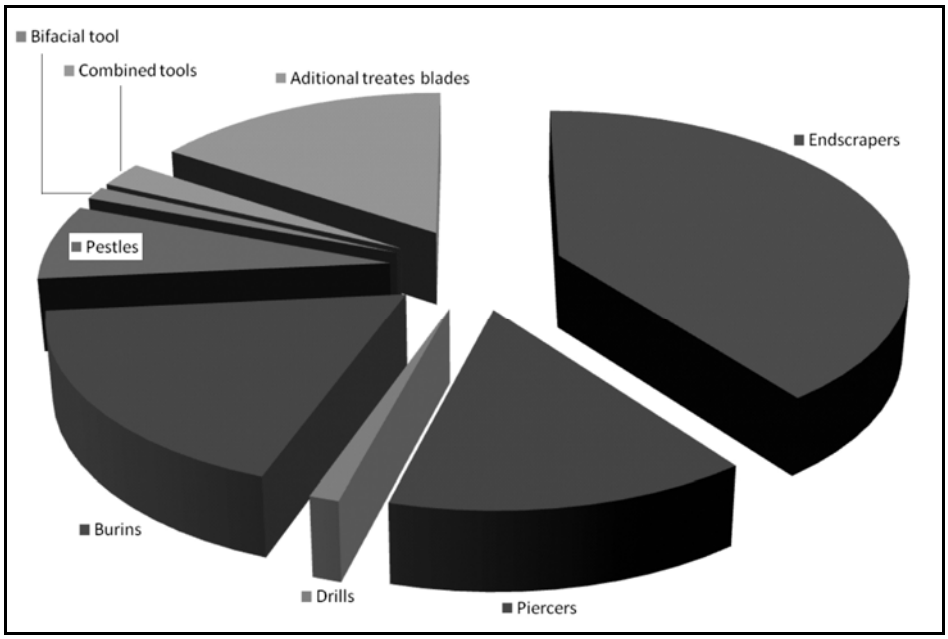

Fig. 2. Typologikal characteristic of flint tools.

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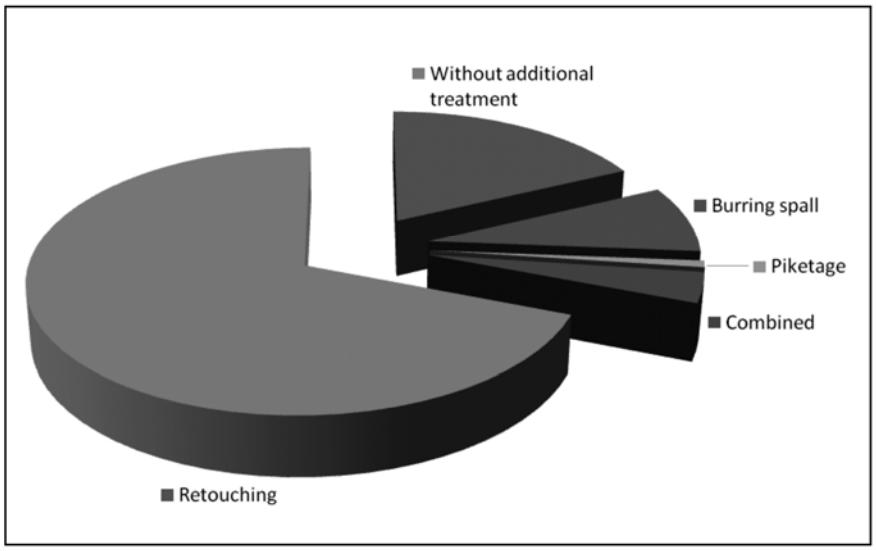

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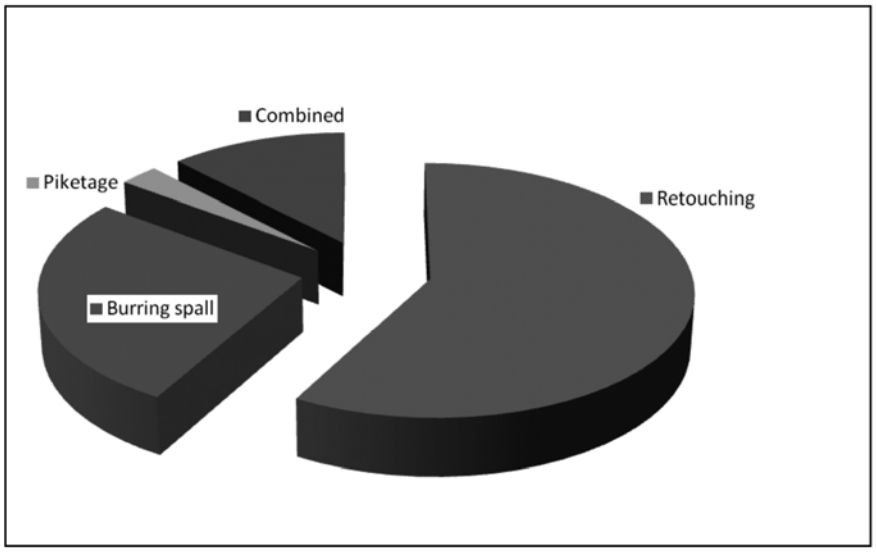
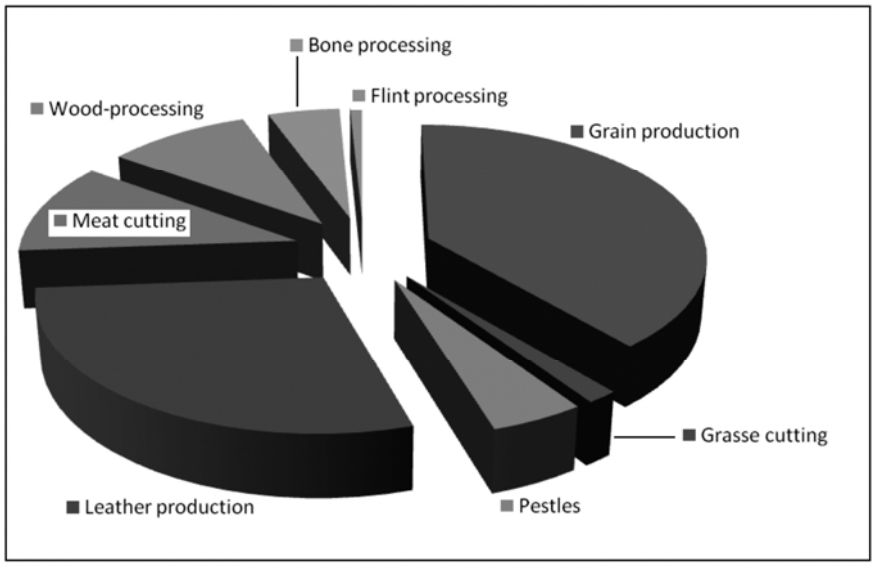


Fig.3 Additional treatment of flint artifacts;1.Proportion of treat artifacts and artifacts without treatment; 2. Proportion to kinds of treatment.

1.



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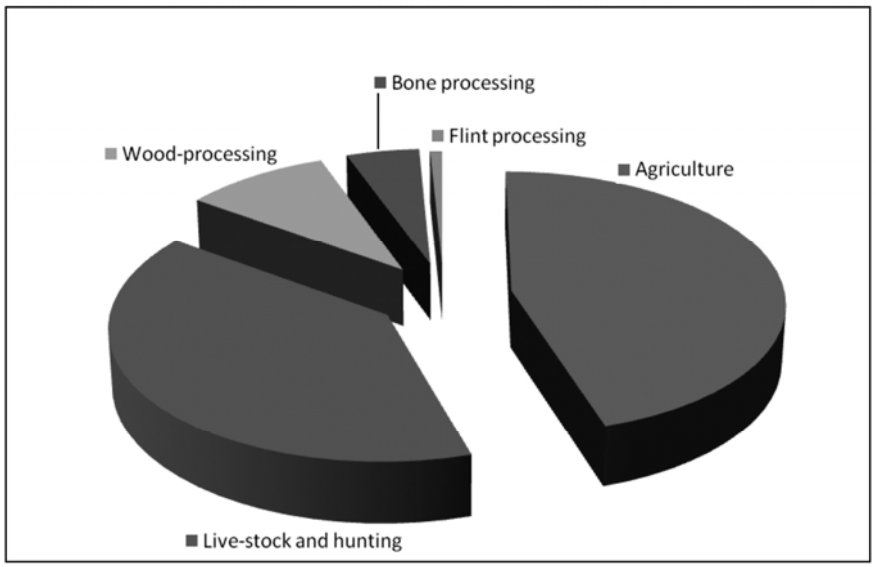

Fig. 4. Use-wear analysis**;** 1. Proportion of activitysq in the base of wear-traces 2. Proportion of branches of economy, in the base of tools numbers.

Fig. 5. Types of blades, found at Măriuța settlement in 2009.

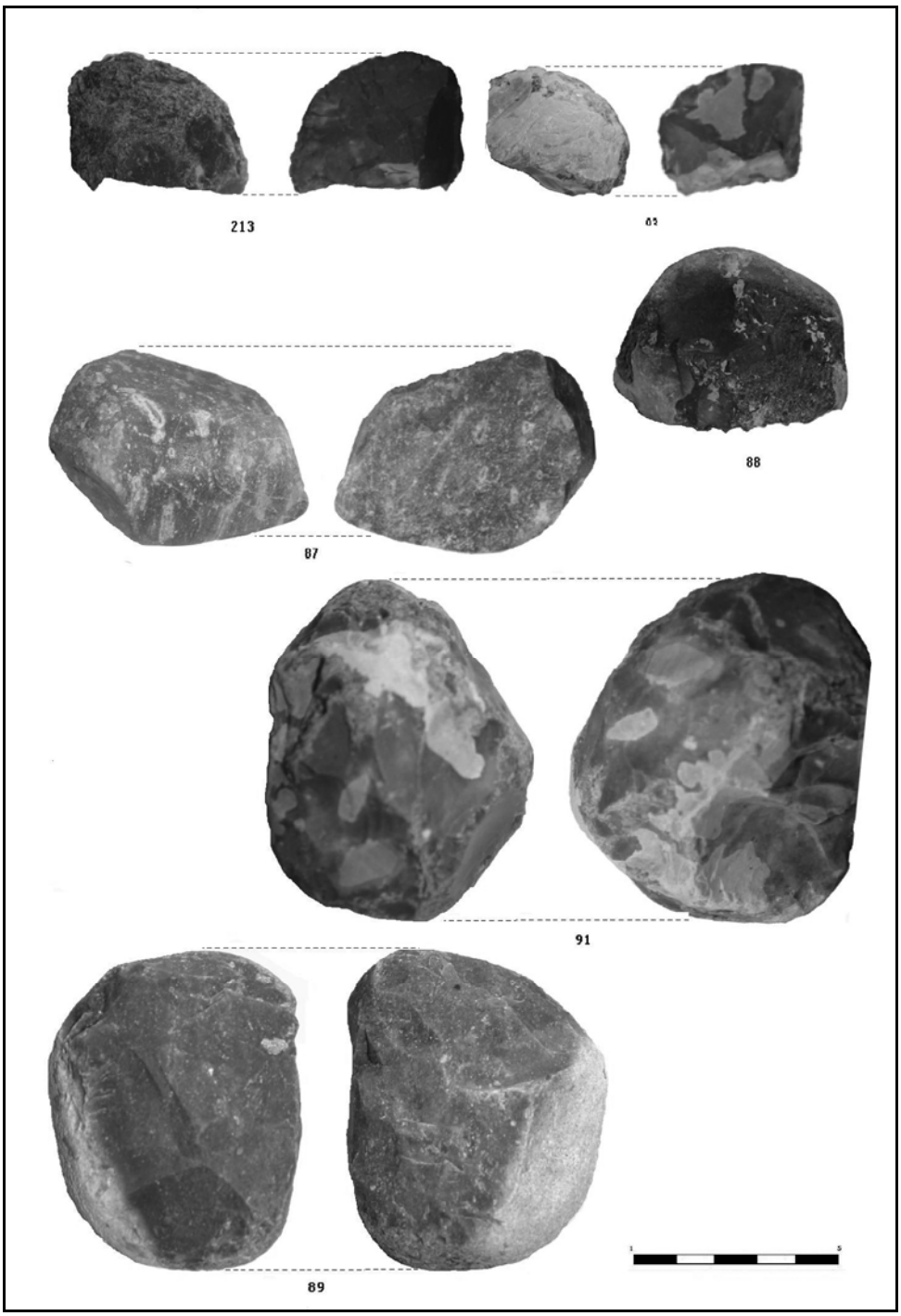

Fig. 6. Pestles from 2009 year assemblaje**.**

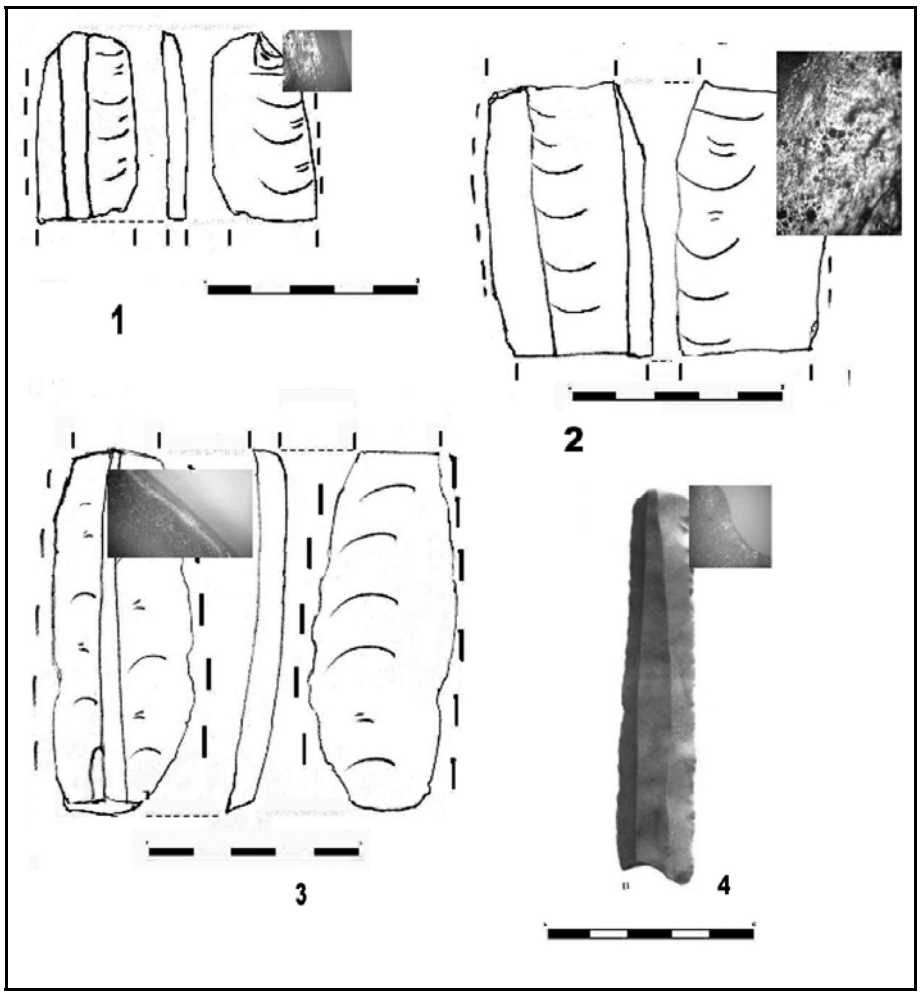

Fig. 7. Use-wear traces 1-2-Elements of sickles; 3-part of consisting leather scraper; 4-Meat knife with one working edges.