

Dacian whetstones from Covasna-Cetatea Zânelor¹

Pietre de ascuțit dacice de la Covasna-Cetatea Zânelor²

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ABSTRACT

At Covasna-Cetatea Zânelor (Fairies Fortress), 109 Dacian whetstones were found. Most likely, the whetstones were used to sharpen metal objects. However, the metal objects discovered in the site are few, which leaves open the possibility of using these whetstones for other (secondary) purposes as well. Some of the whetstones can be associated with two edifices with the roof sustained by three rows of wooden columns that could be interpreted as temples.

REZUMAT

La Covasna-Cetatea Zânelor au fost găsite 109 pietre de ascuțit din perioada dacică. Cel mai probabil, aceste artefacte din piatră au fost folosite pentru a ascuți obiecte metalice. Cu toate acestea, obiectele metalice descoperite până acum în sit sunt puțin numeroase, ceea ce lasă deschisă posibilitatea utilizării acestor pietre și în alte scopuri (secundare). Unele dintre pietrele de ascuțit pot fi asociate cu două edificii cu acoperișul susținut de trei rânduri de coloane de lemn care ar putea fi interpretate drept temple.

Covasna – Cetatea Zânelor

The archeological site Covasna-Cetatea Zânelor is located in southeastern Transylvania, near the town of Covasna,

on Dealul Cetății (Citadel Hill) (Pl. I/1). The most numerous discoveries in the site belong to the Dacian era, but materials from the first Iron Age or the Middle Ages have also been found.

The surface arranged by the Dacians on Dealul Cetății includes an acropolis and at

¹ Acest studiu a fost anterior publicat în limba engleză Crișan, Pupeză, Săsăran, Buzea 2018. Varianta curentă în limba română a primit unele modificări: în cazul bibliografiei și numărului de artefacte discutate (s-au mai făcut între timp noi descoperiri).

² This study was previously published in Romanian: Crișan, Pupeză, Săsăran, Buzea 2018. The current Romanian version has undergone some changes: the bibliography and the artefacts number has been updated (new discoveries have been made since the date of publication).

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least six terraces (conventionally marked with Roman numerals from I to VI) (Pl. I/2, 3). They were supported and defended by walls made of slightly shaped stone, which had a wooden palisade at the top. The earliest level of Dacian habitation can be dated to the end of the 2nd c. BC – the beginning of the 1st c. BC. The end of the fortress from Covasna is related to the Dacian-Roman wars from the end of the 1st c. AD and the beginning of the 2nd c. AD⁷.

Whetstones

The archeological material discovered in the site is a diverse one, a special category being made up of sharpening stones (whetstones). So far, 109 whetstones have been discovered in the site on *Dealul Cetății*⁸. Compared to other similar Dacian sites, this number is relatively high, but not outstanding. For example, in Brad, about 180 fragments from sharpening stones were discovered⁹, while in Piatra Roșie only five were found¹⁰. In fact, whetstones have been discovered in most sites in Dacia, sometimes in significant quantities. As a result, the citation of possible analogies for the (common) artifacts from Covasna is almost useless.

A typology of Dacian whetstones is difficult to achieve. The closest typologies are those made for the Romanian world¹¹ (Fig. 1). Up to a point, those typologies could be adapted for the Dacian world.

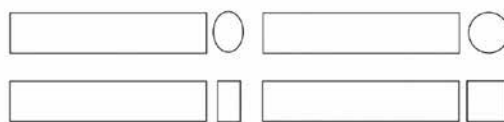


Fig. 1 Types of whetstones from the Roman world (after Thiébaux et alii 2016).

Fig. 1 *Tipologia cutelor din lumea romană (după Thiébaux et alii 2016).*

Many of the artifacts found are worn, which sometimes led to a change in their original shape. In Covasna only 19 specimens were found complete or almost complete, the vast majority of the items being fragmentary. The preserved fragments of whetstones are especially from the ends and less often from the middle area. Obviously, some fragments could be from the same artifact. In terms of shape, three types of whetstones can be distinguished (Fig. 2). Some fragments could not be assigned to any type.

Type 1. Whetstones which are in the shape of a cylinder, round or even oval in section (Fig. 2). 14 fragments discovered at Covasna can be attributed to this type (Pl. I/1-4, 7, 10). No complete specimens were found. Some fragments had a rounded end. Although they are fragmentary, it can be seen that most of the items are small or medium in size (with maximum diameters between 1.8 - 2.4 cm and 2.8 - 3.5 cm).

Type 2. Whetstones which are approximately in the shape of a rectangular parallelepiped, with more or less rounded edges (Fig. 2). 12 specimens discovered in Covasna have very well-rounded edges, being difficult to differentiate from the previous type (Pl. 2/5, 6, 8, 9, 11-21). The rounding of the edges can be related to the manufacturing process of the items, but it can also be due to their prolonged use. In the case of artifacts with well-rounded edges, at least one face remains straight.

⁷ Székely 1972, 201-214. Sîrbu, Crișan 1999, 71-81. Crișan 2000, 33-36. Crișan, Sîrbu 2010, 266-285. Crișan, Sîrbu, Popescu 2013, 22-26. Crișan, Sîrbu, Pupeză 2016, 19-41. Mărgineanu, Apostol 2019, 89-140. Ștefan, Ștefan, Buzea 2020, 521-534.

⁸ Some of the artifacts are inventoried at the National Museum of the Eastern Carpathians from Sfântu Gheorghe with inventory no.: 7441, 7444, 7452, 7480, 7489, 8013, 8089-8101, 8156, 8182, 9188, 9408, 9409, 9420, 11004, 11087, 11101, 11102, 13131, 13134, 13140, 13143, 13149, 19233, 19255, 19256, 19288, 19304, 19333, 19441, 19442, 19598, 19649, 19651, 19657, 19660, 21818, 21819, 21820, 21827, 25766-25767.

⁹ Ursachi 1995, 134.

¹⁰ Daicoviciu 1954, 81.

¹¹ Allen 2014, 6-7; Thiébaux et alii 2016, 566.

The other specimens of this type have a rectangular section – 42 specimens (Pl. III, IV), square – 19 specimens (Pl. V/1-6, 9-11, 13-14) or trapezoidal – 3 specimens (Pl. V/12). One end of the items is rounded, the other end being also rounded (Pl. III/2, IV/13, V/6, 13), or straight (Pl. II/17, III/1) or slightly oblique (IV/1-3, 14, 15).

The dimensions of the items vary from very small to very large, but it is not possible to establish the initial dimensions of the whetstones. The thinnest item is about 0.6 cm thick (Pl. II/2). Note that, regardless of shape, some items had similar thicknesses: 0.9-1.1 cm (12 items), 1.6-1.8 cm (13 items), 2.1-2.2 cm (17 items), 2.8-3.0 cm (9 items), 3.5 cm (5 items) or 3.8 cm (3 items). The massiveness of some whetstones can also be seen from the weight of the fragments that have been preserved: 424 gr (Pl. IV/10), 470 gr (Pl. V/12) or 854 gr (Pl. V/14).

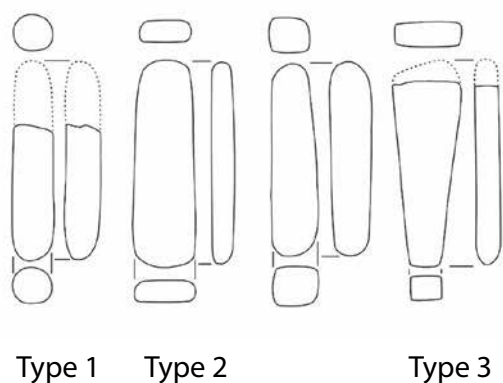


Fig. 2 Types of whetstones from Covasna-Cetatea Zânelor.

Fig. 2 Tipologia cutelor de la Covasna-Cetatea Zânelor.

More relevant are the dimensions of the item found complete: 14.7 X 3.4 X 2.3 cm and 226 gr (Pl. II/11); 11.6 X 3.6 X 3 and 188 gr (Pl. II/12); 11.6 X 2.9 X 2.3 cm and 118 gr (Pl. II/17); 9.3 X 1.4 X 9 cm and 21 gr (Pl. III/9); 12.9 X 3.5 X 2.2 cm and 146 gr

(Pl. IV/2); 13.8 X 4.1 X 1.1 cm and 178 gr (Pl. IV/13); 14.3 X 4.2 X 1.1 cm and 198 gr (IV/14); 18.6 X 5.2 X 2.1 cm and 546 gr (Pl. IV/15); 8.2 X 2.4 X 2.1 and 106 gr (Pl. V/6); 16.4 X 3.5 X 2.2 cm and 280 gr (Pl. V/11); 34 X 11.1 X 55 cm and 3366 gr (Pl. VI/1). Although the sizes of complete items vary, their thickness is often the same: 0.9-1.1 cm (3 items) or 2.1-2.3 cm (6 items). The situation is the same in the case of the width of some items: 3.4-3.6 cm (4 items).

Three whetstones of relatively small dimensions have one hole each (Pl. II/17, III/1, 9), and one specimen has a perforation started on both sides but unfinished (Pl. II/2). Generally, such holes are located at the ends of whetstones discovered in Dacia (Brad¹², Cetățeni¹³, Grădiștea¹⁴, Grădiștea de Munte¹⁵, Ocnîța¹⁶, Pietroasele¹⁷, Poiana¹⁸, Zimnicea¹⁹). But there are also cases when the perforation was made near the middle area of the item (Merești²⁰).

The vast majority of the artifacts show signs of wear: more or less deep incised lines preserved on the surface of the artifacts. Some have a shape similar to the number 8, with slightly convex edges, probably due to the intense use of these areas (Pl. II/14, 16; III/11; IV/11; V/12). Only one item has in the middle area of one side a longitudinal canal with a width of about 1.6 cm and a depth of about 0.4 cm (Pl. VI/1). It is difficult to determine whether this longitudinal canal is a sign of wear or had another role.

A large artifact (16.1 X 9.1 X 3.2 cm and 1108 gr) has similar features to the artifacts attributed to this type (Pl. VI/4). Even if it does not show obvious signs of wear, it could still be considered a whetstone.

¹² Ursachi 1995, Pl. 229/2, 4, 14, 22.

¹³ Măndescu 2006, Pl. 20/4.

¹⁴ Sîrbu 1996, Pl. 109/7,9; 110/6.

¹⁵ Suciu 2016, 174, Pl. VI/2, XI/3.

¹⁶ Berciu 1981, Pl. 80/11.

¹⁷ Sîrbu, Matei, Dupoi 2005, Fig. 27/20-22; 92/1-4, 94/14.

¹⁸ Vulpe, Teodor 2003, Fig 80/1,5,7,10; 81/2.

¹⁹ Ganciu, Măndescu 2014, 94, Fig. 2/14; 3/14.

²⁰ Crișan 2000, Pl. 97/6.

The thickness of the item is similar to that of whetstones. Building materials similar in shape were not found in the site.

Type 3. Whetstones that are in the shape of a prism, with two approximately trapezoidal, elongated facets (Pl. V/7-10, 15-20) (Fig. 2). Of the 10 specimens attributed to this type, 6 are complete or almost complete. It is possible that other items discovered in Covasna had the same characteristics but could not be identified as such given their fragmentary state.

The cross section of these artifacts is at one end square (Pl. V/7, 9), rectangular (Pl. V/8, 10, 15-17, 19, 20) or trapezoidal (Pl. V/18); the other end may have a different shape, including oval or circular (Pl. V/15, 17, 19).

Two of the fragments are from massive artifacts: 890 gr (Pl. V/15) and 744 gr (Pl. V/16) respectively. The items preserved complete are small and medium in size: 9.8 X 2 X 1.6 cm (Pl. V/7); 11.3 X 2.8 X 1.5 cm and 108 gr (Pl. V/10); 18.5 X 4.7 X 2.3 cm (V/17); 15.3 X 3.8 X 3.5 cm and 512 gr (Pl. V/18); 13.1 X 2.5 X 1.1 cm and 75 gr (Pl. V/19); 12.1 X 2.9 X 2.8 cm and 148 gr (Pl. V/20).

Whetstones were discovered in all the investigated areas on *Dealul Cetății*, both on the acropolis (2 items - Pl. V/13) and on Terrace I (1 item - Pl. II/10), Terrace II (101 items) or Terrace III (2 items - Pl. II/6, III/13) (the rest of the artifacts do not have a certain place of discovery). The whetstones on Terrace II were discovered in the area of intersection with Terrace III, where a stone bastion was erected (Pl. I/3). The most extensive archaeological research on the site took place here, which may explain the large number of whetstones found here.

The vast majority of the artifacts were found in the culture layers (filling / walking / leveling / destruction). Four specimens come from possible dwellings or features with a still unknown functionality (Pl. II/3). Another 35 artifacts can be associated with two edifices erected on the

Terrace II (Pl. II/2, 5, 8; III/7-9, 14, 17; IV/6, 8, 10, 13-15; V/4, 6, 11, 12, 14, 15, 18-20). These buildings had a roof supported by three rows of wooden pillars and (Pl. I/4).

From a chronological point of view, the artifacts cover the entire period of operation of the fortress. The two buildings with rows of wooden pillars can be dated during the 1st c. BC or at the beginning of the 1st c. AD. The artifacts associated with these features are the earliest, among those that have a well-established chronology. The other artifacts in the bastion area were found with predilection in the late levels, including in the collapsed terrace wall, being dated during the 1st c. AD.

The origin of the whetstones from Dacia is difficult to establish. In the Carpathian-Danubian space whetstones were discovered both in sites from the Bronze Age and in those of the first Iron Age. A special case could be that of the sharpening stones with a hole at one end. Items of this type appear frequently in the steppes north of the Black Sea in sites from the first Iron Age, being later spread by the Scythians. Perforated whetstones also appear in the cultures of the first Iron Age in the Carpatho-Danubian space (Saharna, Basarabi, Ferigile, Vekerzug). Their presence could be the result of a Scythian influence, but the hypothesis of a local origin cannot be ruled out either²¹. It should be mentioned that whetstones rarely appear in the Celtic discoveries in the eastern Carpathian Basin²² or in the Bastarnian ones to the east of the Carpathians²³.

The raw material

From the total of 109 items discovered in Covasna, for 45, macroscopic and microscopic analyzes were performed. A polarized light microscope was used, using

²¹ Burghardt 2013, 86-89.

²² Crișan 1964, 99, Pl. II/6, III/8. Pupeză 2008, 40, Pl. XVI/3.

²³ Babeș 1993, Taf 22/13, 31/4.

three thin samples (sample 1-3), under working conditions with crossed Nicols (N+) and with a single Nicol (1N). The three samples are representative of the sample studied.

Sample 1: silty sandstone (Pl. VII/1, 2)

Macroscopic: compact rock with fine grain, dark gray color, psammitic texture. Microscopic: subangular quartz clasts predominate (up to 80-90%); there are also feldspar (less than 3%; potassium feldspar is clayey, plagioclase feldspar is calcitised), opaque minerals, rarely lithoclasts and Fe oxyhydroxide films; micas (chlorite, muscovite, biotite) are also common.

Sample 2: quartzitic sandstone (Pl. VII/3, 4)

Macroscopic: compact rock with medium-coarse granulation, gray color, psammitic texture. Microscopic: subangular quartz clasts predominate (up to 90%); there are also feldspar, opaque minerals, micas and Fe oxyhydroxide films.

Sample 3: silty sandstone (Pl. VII/4, 5)

Macroscopic: compact rock with fine grain, brown-gray color, psammitic texture. Microscopic: subangular quartz clasts predominate (up to 80-90%); there are also feldspar (less than 3%; potassium feldspar is clayey, plagioclase feldspar is calcitised), opaque minerals, rarely lithoclasts and Fe oxyhydroxide films; micas (chlorite, muscovite, biotite) are also common.

The raw material used is part of the group of sedimentary rocks, whether it is silty, fine sandstones, or medium-coarse, quartz sandstones. The petrographic analyzes highlight the presence of a single source for the raw material used for the whetstones from Covasna. These sandstones come from the Audia nappe, most likely from the Covasna area. These sandstones belong to the "upper member of quartzites with glauconite" of Cretaceous age, the identified types of arenites having a widespread²⁴.

²⁴ Grosu, Catana, Grinea 1988, 19-20.

The types of rocks that were used in the construction of the walls of Covasna were also determined with the help of macroscopic and microscopic analyzes in thin sections, with the petrographic microscope with polarized light. Following the analysis of 52 samples taken from the fortress walls, the following results were obtained: arenites of different varieties (34), polymictic conglomerates (8), marls (5) and lithic graywacke (5)²⁵.

The raw material used for the whetstones differs from that used for the walls in Covasna. Therefore, the whetstones are not a by-product of the construction of walls. Most likely, the stone for whetstones was mined in a nearby quarry. Being a relatively common material, it is difficult to identify such a possible quarry. The area covered by the Audia nappe, from which the raw material comes, is an extensive one that leaves open many possibilities.

Most likely the stone was processed nearby or even at the extraction site²⁶. It is not excluded that such products are made in the workshops in the settlements, but we lack the evidence to prove such a situation for Covasna (raw material, scraps, production residues, etc.).

In the northern area of Terrace II from Covasna there was discovered an irregularly shaped stone, rectangular in cross-section, that had incised two deep parallel grooves (11.9 X 7.7 X 1.8 cm and 175 gr) (Pl. VI/3). The thickness of the item is similar to that of whetstones. The incised grooves could have appeared as a result of using the item to sharpen large metal objects. In this case, these would be the only traces of wear that can be seen on the item. Another possibility is that these grooves are connected to the process of making whetstones. One of the methods used to produce whetstones involves

²⁵ Crişan, Săsăran 2008, 165.

²⁶ Iaroslavschi 1997, 35.

cutting small segments from large pieces, by making straight, deep incisions²⁷. It should be noted that the item shows no traces of polishing. It is not the only example of this kind from Covasna (Pl. III/6, 17; IV/6, V/3, 9).

The fact that some items were not polished may be an indication that the whetstones were not used and that they were to be finished at the place of use. Polishing the artifacts was a time-consuming process, which could be done with a harder rock or with another whetstone of similar material. A faster way was to use metal slag or scraps from the production of metal objects²⁸. Metal slag was discovered in the site from Covasna, but it could not be associated with a metallurgical complex.

Functionality

Due to the fine grain size and hardness of the rock type, the above-mentioned items could be used as abrasive tools. Most of the items discovered at Covasna show traces of wear. The incised grooves are arranged obliquely or perpendicular to the whetstone, both on the wide and narrow facets. Most likely such traces are caused by rubbing on the stone a metal object, made of iron or bronze.

Pliny mentions several places for the extraction of whetstones on the territory of the Roman Empire. The division he makes is not necessarily based on the hardness of the stone, but on the way it was used for sharpening: with water, oil or saliva (the last combination was for small, very fine items)²⁹.

It cannot be specified whether a certain type of those mentioned above was specialized for a certain category of objects that had to be sharpened. Small items

were most likely used to sharpen small metal objects (knives, arrowheads). This category also includes artifacts with holes, which were probably hung on clothes and worn. A special situation is presented by the partially perforated artifact (Pl. III/2). Similar examples were found in several sites in Dacia (Brad³⁰, Grădișteea³¹, Pietroasele³², Poiana³³, Popești³⁴). It is possible that their perforation stopped for reasons unknown today. It would be a new indication that such artifacts were finished at the place of use. It is also possible that these partial perforations may be part of another type of attaching or hanging of the whetstones.

The dimensions and weight of some artifacts from Covasna (Pl. V/14-16; VI/1) make them very difficult to handle. Most likely, some sharpening tools were immobile, fixed on a support, and the object to be sharpened was the movable one³⁵.

On *Dealul Cetății* at Covasna relatively few metal objects were found, that could have been sharpened with a whetstone. Only a fragmentary plier, a chisel and a sickle blade can be included in the category of iron tools. To these are added a few iron knife-blades, from the category of objects of common use. The weapons discovered are also few: a lance tip, a spearhead and six iron arrowheads. Much more numerous are the iron construction materials: smaller or larger nails, clamps. The lack of iron objects in the fortress may reflect a stage of research or is a result of some as yet unknown phenomena.

Some sharpening stones were used in the production of metal ornaments. Not

²⁷ Thiébaux et alii 2016, 574–576.

²⁸ Thiébaux et alii 2016, 580.

²⁹ Plinius, *Naturalis Historia*, XXXVI, 47.

³⁰ Ursachi 1995, 134.

³¹ Sîrbu 1996, 34, Fig. 109/10.

³² Sîrbu, Matei, Dupoi 2005, 24.

³³ Vulpe, Teodor 2003, 51, Fig. 81/1.

³⁴ Vulpe, Gheorghită 1979, Pl. II/4.

³⁵ Iaroslavschi 1997, 35.

coincidentally, a whetstone of fine material was part of a jeweler's kit discovered at Grădiștea de Munte³⁶. Obviously, such stones may have been used to sharpen tools in kits of this kind.

Whetstones probably had other uses, too. Some artifacts could be used to polish ceramics³⁷. The same functionality can be attributed to stone tokens. Such items were discovered in Covasna along with tokens made from the walls of ceramic vessels. It can be assumed that the stone and clay items were used for some games, but another use cannot be ruled out. One should note the discovery at Covasna of a large stone token (Pl. VI/2) that would have been difficult to use in a game. The material from which it is made is similar to that of the whetstones discovered in the site.

With abrasive surfaces, a whetstone could also be used for non-metallic materials. Pliny mentions that roots could be rubbed on such stones to produce medical preparations³⁸. In the "medical kit" discovered at Grădiștea de Munte there was a plate of volcanic ash. In this case, it was assumed that the stone itself might have had healing qualities³⁹.

The vast majority of whetstones from Dacia come from secular contexts (homes, workshops, pits). However, in some cases this type of artifact can be associated with funerary or cult features. Their (secondary) functionality within these features is difficult to establish. A whetstone was part of the inventory of an incineration tomb in Brad, along with burned human bones, glass fragments and ceramic fragments⁴⁰. A whetstone was part of the inventory of a "magic kit" discovered in the necropolis from Zimnicea⁴¹. Sharpening

stones were also deposited in cult features (Augustin⁴², Merești⁴³, Pietroasele⁴⁴, Unip⁴⁵).

On Terrace II from Covasna there were discovered two edifices oriented approximately E-W, which had the roof supported by three rows of wooden pillars: Edifice I, N-E of the bastion, and Edifice II, N-W of the bastion (Pl. I/4). The stratigraphy of the features is relatively similar. The materials associated with these features are numerous and diversified: ceramic vessels, animal bones, clay tokens and loomweights, silver, bronze or iron objects. Given the fact that the buildings have not been fully outlined and the material belonging to them is under research, their functionality is to be established. They could be temples, such as those with column alignments, but another functionality cannot be excluded⁴⁶.

As mentioned above, of the whetstones discovered in Covasna, at least 35 can be associated with these two buildings. Some artifacts show no signs of wear and a significant part of them have been discovered intact. The items come from a layer with burn marks, without being able to specify whether it is a layer of walking or leveling.

If the two buildings were temples, the whetstones can be considered deposits or offerings. This could explain the relatively large number of complete items or the fact that some artifacts do not show traces of wear. But, without knowing with certainty the functionality of the features, this assumption remains at the stage of a working hypothesis.

³⁶ Suciu 2016, 174, Pl. VI/2, XI/3.

³⁷ Sîrbu 1996, 34.

³⁸ Plinius, *Naturalis Historia*, XXIV, 52.

³⁹ Daicoviciu et alii 1957, 260-261, Fig. 2/7.

⁴⁰ Ursachi 1995, 258, Fig. 338/6, 357/2.

⁴¹ Ganciu, Măndescu 2014, 94, Fig. 2.14, 3/14.

⁴² Costea 2006, 94.

⁴³ Crișan 2000, 117.

⁴⁴ Sîrbu, Matei, Dupoi 2005, 24.

⁴⁵ Berzovan 2013, 314-315, Fig. 6.

⁴⁶ Crișan et alii 2017, 49-50. Crișan et alii 2018, 30-31.

Conclusions

Made of abrasive material, the 109 whetstones discovered at Covasna were mainly used for sharpening. However, what kind of objects were sharpened in the fortress, remains to be determined in the future, given that the tools and weapons found in the site are few. The association of sharpening stones with possible cult features highlights another side of these common items, a less functional one.

Even if they are common items, whetstones had their importance in the Dacian world and should not be ignored. Blunt weapons could not be used in battle, and many tools would become useless if not sharpened. The presence in large numbers of whetstones in the fortress of Covasna fully demonstrates this importance. Most likely, their number will increase with the new archeological excavation campaigns, the site being researched only in a small proportion.

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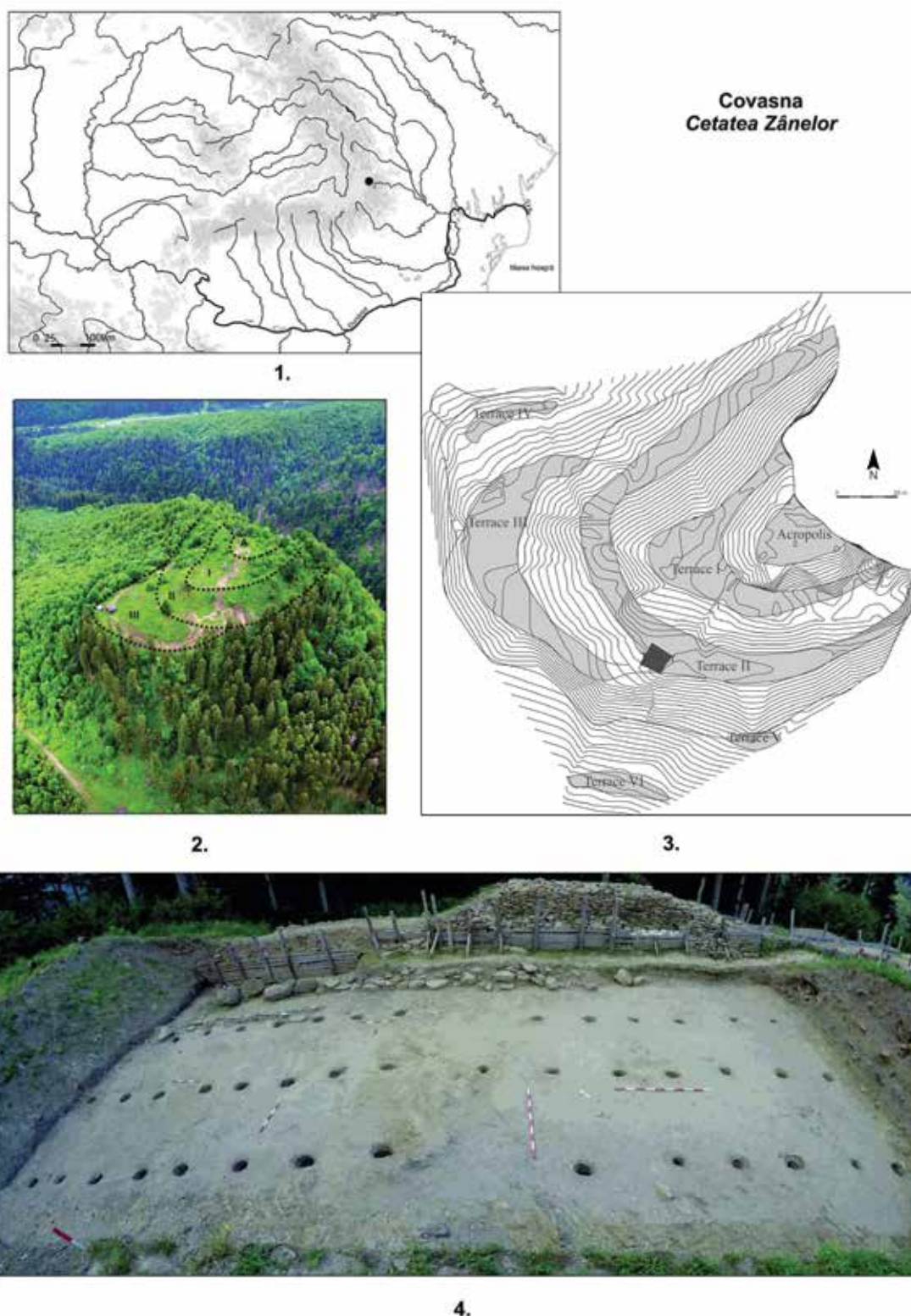
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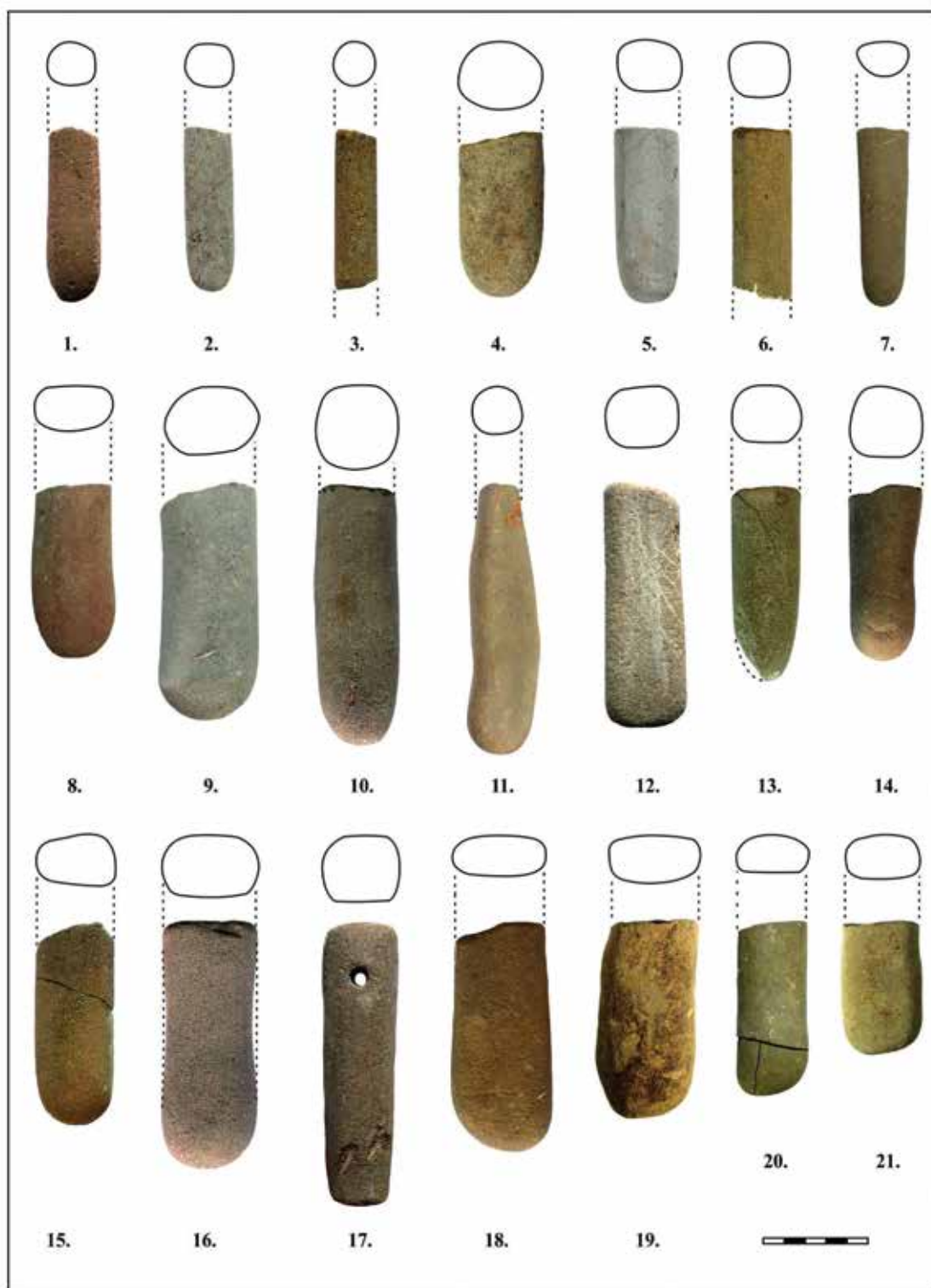
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Pl. I Covasna-Cetatea Zânelor. 1 – Location; 2 – General view (photo by D. Ștefan); 3 – Topographic survey (by Z. Bede); 4 – Edifices on Terrace II (photo from the excavation archive).

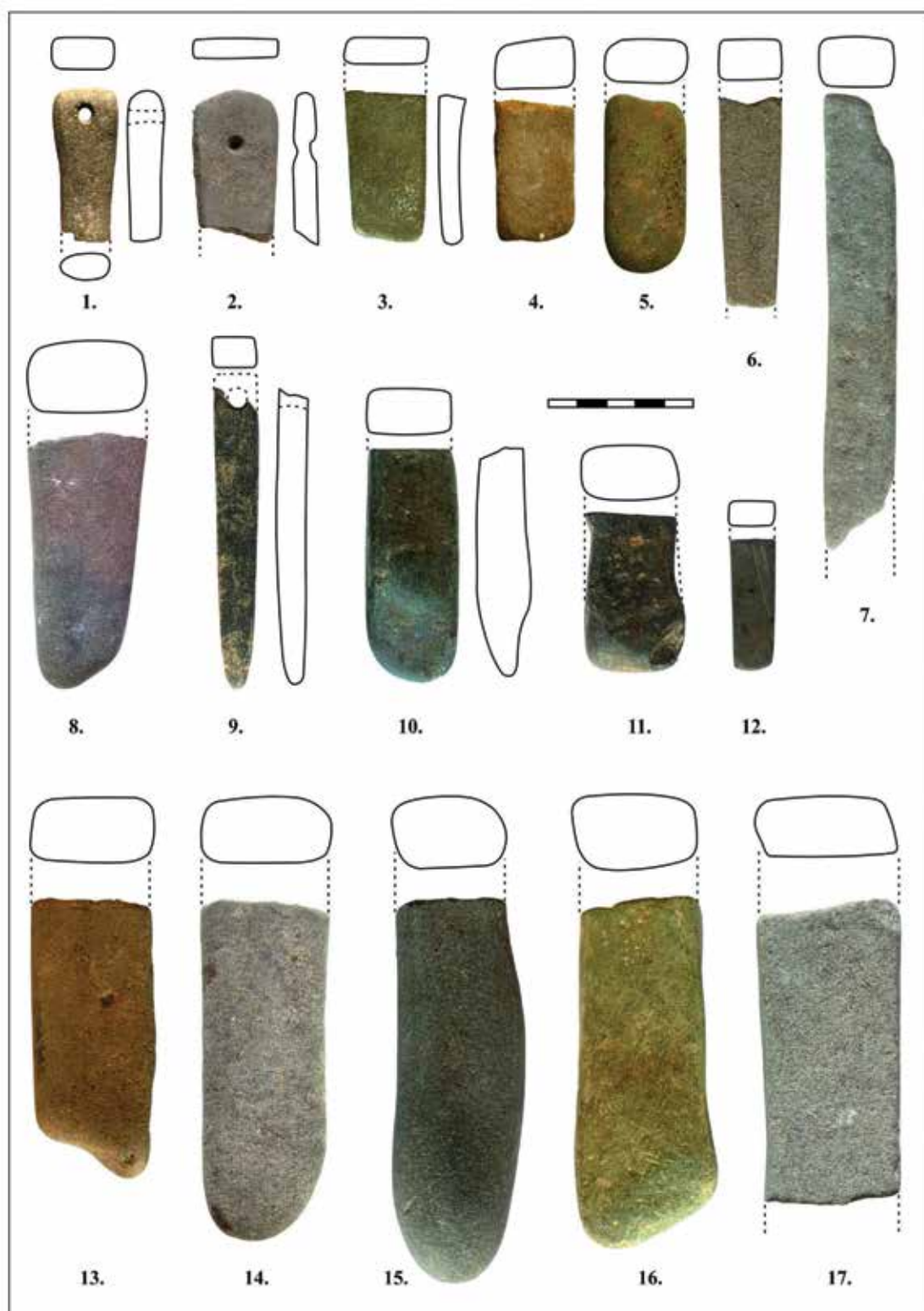
Pl. I Covasna-Cetatea Zânelor. 1. Localizare. 2 – Vedere general (fotografie D. Ștefan); 3 – Plan topografic (Z. Bede); 4 – Edificiile de pe terasa II (fotografie dina arhiva șantierului).



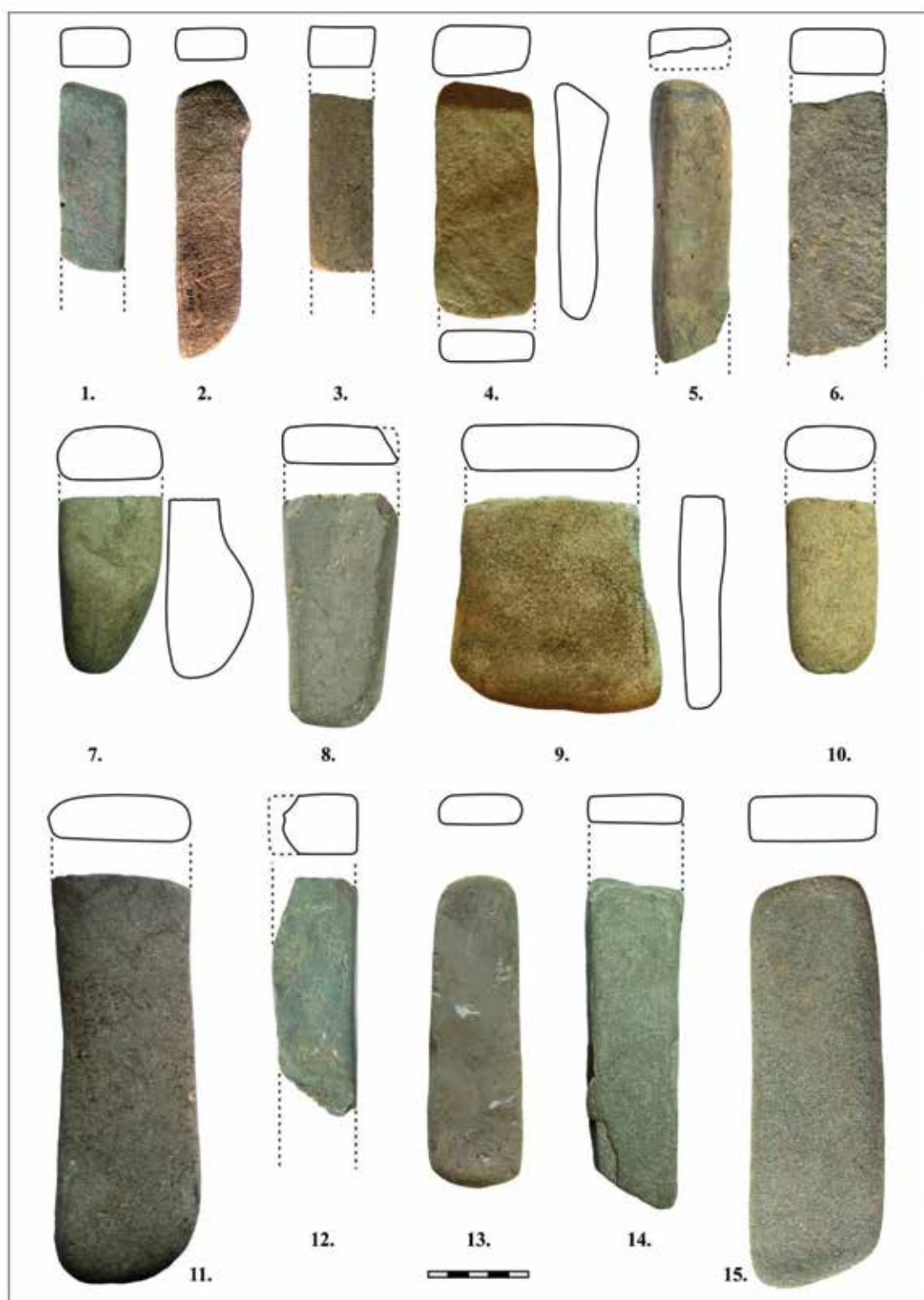
Pl. II Covasna-Cetatea Zânelor.

1-21 Whetstones (photos from the excavation archive).

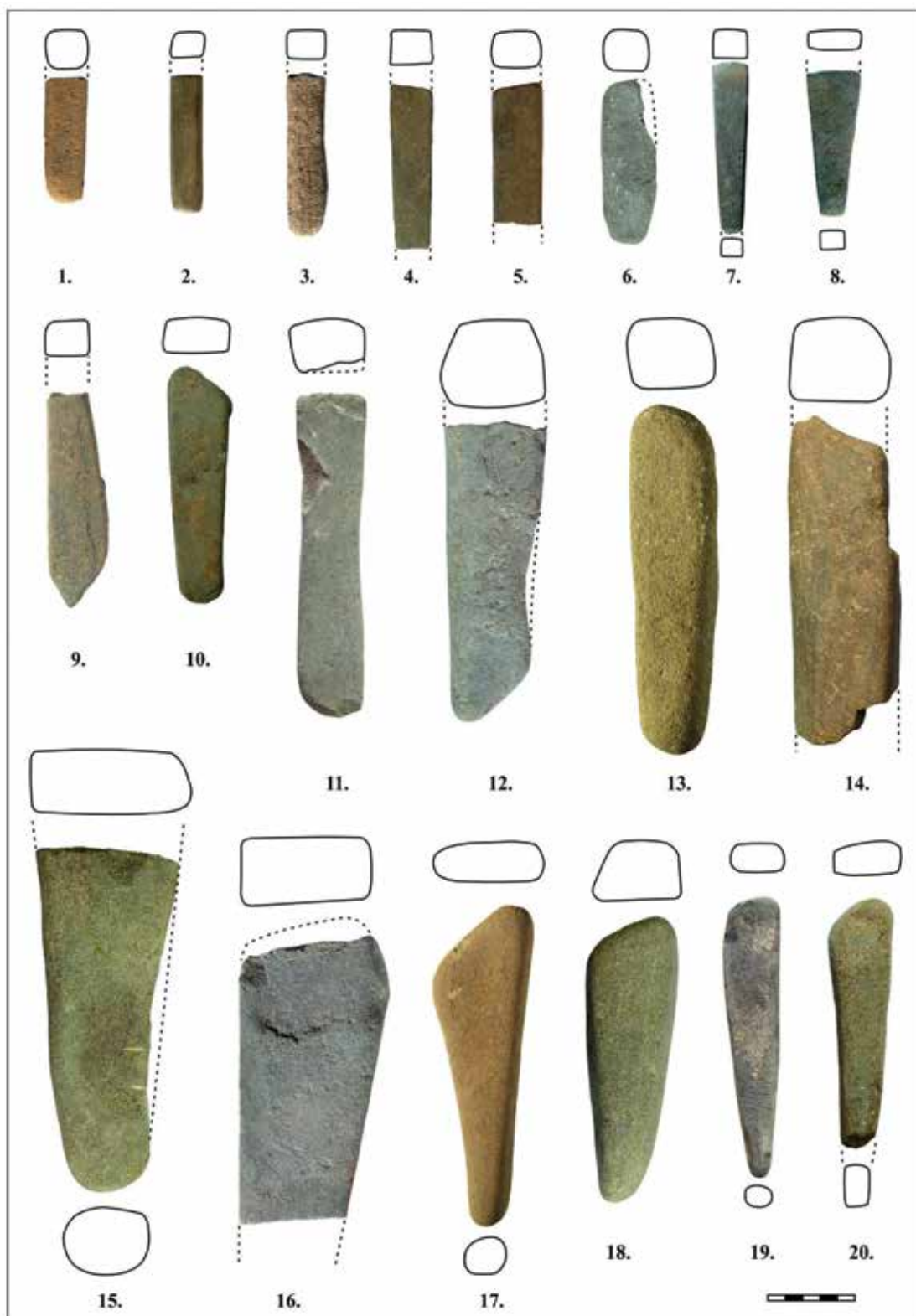
Pl. II Covasna-Cetatea Zânelor. 1-21 Cute (fotografii din arhiva șantierului).



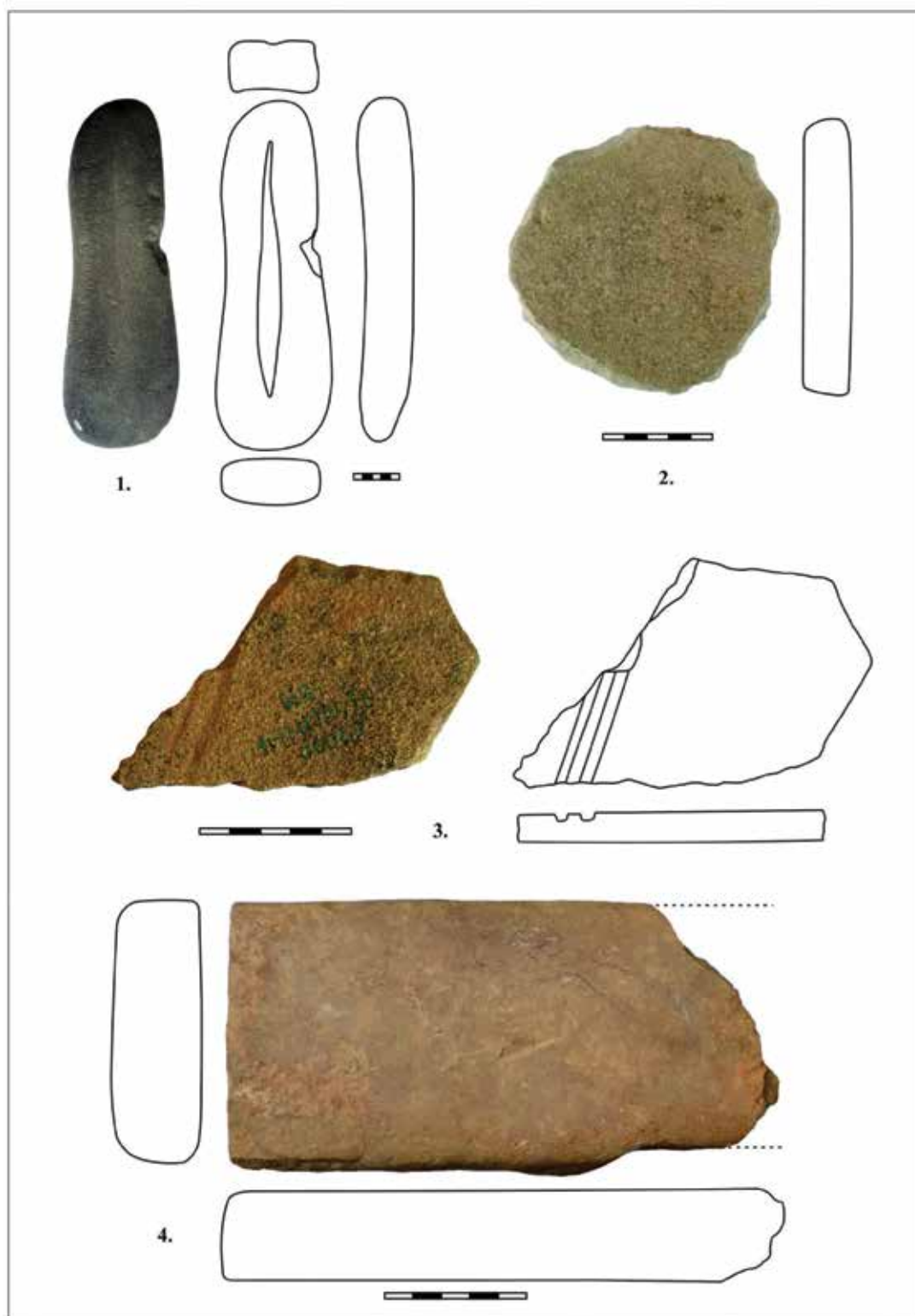
Pl. III Covasna-Cetatea Zânelor. 1-17 Whetstones (photos from the excavation archive).
Pl. III Covasna-Cetatea Zânelor. 1-17 cute (fotografii din arhiva șantierului).



PI. IV Covasna-Cetatea Zânelor. 1-15 Whetstones (photos from the excavation archive).
PI. IV Covasna-Cetatea Zânelor. 1-15 cuto (fotografii din arhiva șantierului).

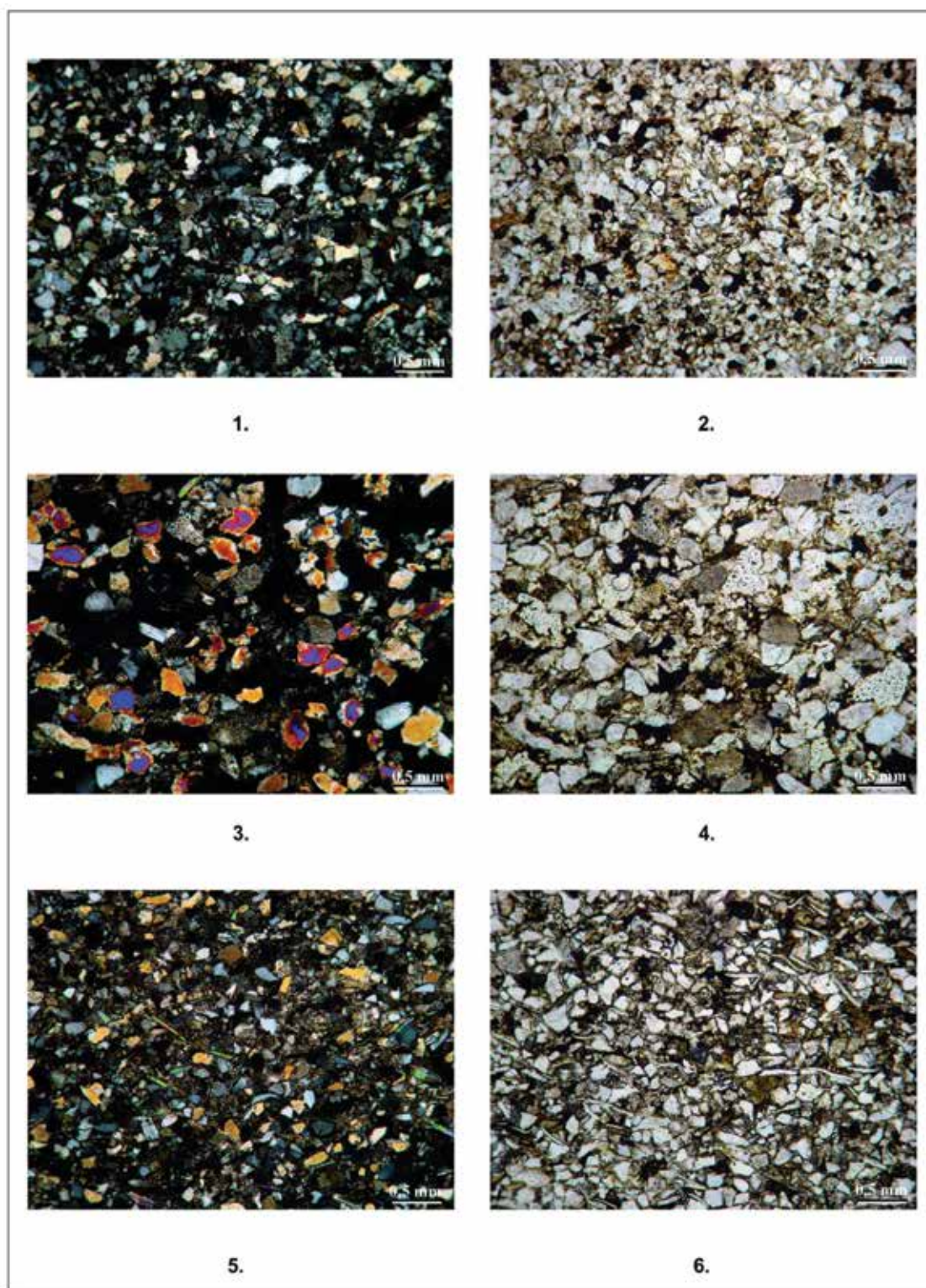


PI. V Covasna-Cetatea Zânelor. 1-20 Whetstones (photos from the excavation archive).
PI. V Covasna-Cetatea Zânelor. 1-20 cute (fotografii din arhiva șantierului).



PI. VI Covasna-Cetatea Zânelor. 1, 3, 4 Whetstones; 2 – Stone token (photos from the excavation archive).

PI. VI Covasna-Cetatea Zânelor. 1, 3, 4 cuto; 2 – jeton din piatră (fotografii din arhiva șantierului).



PI. VII Covasna-Cetatea Zânelor. 1-6 Microscopic photos of the samples (by L. Săsăran).
PI. VII Covasna-Cetatea Zânelor 1-6 fotografii la microscop ale probelor analizate
(de L. Săsăran).