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HUMAN ACTIVITY TRACES FROM SHELTER IN SMOLEŃ III (CENTRAL PART OF KRAKÓW-CZĘSTOCHOWA UPLAND) FROM THE LAST CENTURIES OF ANTIQUITY

This paper presents a number of finds dated to the Late Antiquity, from the cave site Shelter in Smoleń III, Pilica comm., Silesian Voivodeship, Poland. The objects are connected with one of several cultural episodes that were observed on the site. In the group of finds there are: a ceramic vessel dated to younger Pre-Roman period; animal bone remains possibly of a ritual character, which according to radiocarbon dating have been deposited around the beginning of the 2nd century BC; and a metal anchor-shaped key of a very wide potential dating – from the 2nd century BC till the Early Middle Ages. The finds have undergone the following analyses: descriptive, technological, comparative, taphonomical, radiocarbon dating and chromatographic. The study permits to look in a new way at the seemingly poor materials of the Late Antiquity uncovered in caves of the Polish Jura chain, and the role of often overlooked small rock shelters of that time.

KEY WORDS: cave site, younger Pre-Roman period, Roman period, ceramic vessel, iron anchor-shaped key, animal bones, taphonomy, radiocarbon dating, chromatographic analysis

1. INTRODUCTION

The purpose of the article is to present the finds from a multicultural feature (Early Bronze Age – Middle Ages) of a cave site Shelter in Smoleń III[1]. These finds, on the basis of multi-aspect techno-typological and stratigraphic context analyses, as well as radiometric dating, can be linked with the Late Antiquity. In the group of finds there are: a) a ceramic vessel dated to younger Pre-Roman period; b) a metal anchor-shaped key, which most probably should be dated to Roman period – phase D of Migration period, though possibly also younger Pre-Roman period; c) animal bone remains possibly of a ritual

[1] The research project funded by the National Science Centre was conducted on the site in years 2012-2013 by an interdisciplinary team, which comprised of the authors (MS, MK and MTK). Analysis of the ceramic vessel and the key was conducted by EB, chromatographic analysis of the residue from the vessel have been conducted by AM and OG. Radiometric dating has been conducted with use of AMS ^{14}C method in Poznań Radiocarbon Laboratory.

character, according to radiocarbon dating deposited around the beginning of the 2nd century BC.

Finds of this type were being uncovered on cave sites since the beginnings of scientific interest with prehistoric penetration of the area (for example Czarnowski 1912). During the course of excavations in dozens of caves around Kraków, Ossowski has acquired dozens of "bones centners" both of wild and domestic animals and humans, as well as a rich collection of artefacts from different eras – from the Palaeolithic to the Middle Ages. In most caves the explorer has distinguished two main levels – the upper one with Holocene fauna, and the lower one with Pleistocene fauna. Pottery and metal finds came only from the upper layer. Amongst the related bones Izydor Kopernicki has distinguished remains of animals such as dog, cat, wildcat and brown bear (Ossowski 1880; 1881; 1882). In several caves unburned human bones from incomplete skeletons were uncovered. Some of these bones were converted into tools. Among the artefacts the large number of pottery is noteworthy – Ossowski found that the excavated potsherds were the remains of at least several hundred vessels, which he dated to Neolithic. Subsequent verification allowed the identification of these materials as Neolithic (Rook 1980), but also of Pre-Roman and Roman. Unfortunately not all of the materials have preserved to our times (Godłowski 1961; Woźniak 1970). Even more numerous was the yield of the excavation, when it comes to bones (including two bone combs from the Roman period) and flint products. Against this background, several dozen fragments of vessels that can be linked with Celtic settlements (Woźniak 1970, 316, 328, 329, 332, 338, 340; Woźniak 2006), a pair of ornaments of bronze, and an iron knife possibly from the same period are not a distinctive addition. Roman period artefacts are more abundantly represented (Wagner 2008). Although it is symptomatic that while discussing the Przeworsk culture findings from caves of the Polish Jura chain, the researchers did not mention the zoological materials of these sites (Godłowski 1961, 193; Dobrzańska 2006; Wagner 2008). This meets reflection in literature. In previous, no attention focused on religious and magical activities is given to the Late Antiquity finds from caves (for example Makiewicz, Prinke 1980; Szafrański 1987; Makiewicz 1993; Kokowski 1993), even if such sites are included in some catalogues, they are summarized very shortly – to a reflection that caves were utilised as temporary shelters during activities related to hunting, foraging or animal husbandry, and eventually as a place of refuge (Woźniak 1970, 213; Woźniak 2006). This approach remains limited to a few words in a note by Godłowski (1985, 118) about the possibility "of correlation with cult practices, or even with some specific forms of burial" of the approximately 40 human skeletons discovery in Kroczycka Cave, as well as in a cursory review of associated finds (Mycielska, Rook 1966). Although recent studies continue to reveal the presence of materials (artefacts, skeletal remains of animal and human) of the Late Antiquity in Polish caves (for example Cyrek 1994a; 1994b; 1995; 1996; 2002, 23-24; Mączyńska 1970; Sobczyk, Sitlivy 2003; Dobrzańska 2006), still it is emphasized that these findings are rather associated with refuge. Moreover, the issue of potential linkage of artefacts of the Late Antiquity to animal bones uncovered together with them in caves is completely ignored (Wagner 2008, 43-45).

Human presence in the upper Pilica region during the time between the beginning of younger Pre-Roman period and the Migration period is marked very weakly, especially against the background of other areas of Poland (Godłowski 1985, maps 1-11; Dąbrowska 1988, map 2; Michałowski 2003, map 11; Wagner 2008). During the last two centuries BC this land was essentially void of human presence – separating Celtic territories from the areas settled by population representing the Przeworsk culture. In Early Roman period, when the latter culture expanded southwards and takes over former areas of the Tyniec group, up until the beginning of Migration period, the vicinity of Smoleń remained uninhabited, though stays within the boundaries of the Przeworsk culture.

Surveys in direct vicinity of Smoleń (Pilica and Wolbrom communes), covering area No. 94-54 of the Polish Archaeological Record, made it possible to isolate just one trace of a settlement of the Roman period, and that's based on a single potsherd (!) identified as belonging to the Przeworsk culture (Skowron 1987). Hardly perceptible traces of human activity discovered in this area – yet special, as the discussed cave find – only highlight the specific nature of the region, analogous to the Ojców Plateau (Dobrzańska 2006; Woźniak 2006; Wagner 2008).

2. SITE'S LOCATION AND DESCRIPTION

Shelter in Smoleń III is located on the right side of Wodąca Valley near village Smoleń (Pilica commune, Zawiercie county, Silesian Voivodeship, N 50°26′02″ E 19°40′27″), in the south-eastern part of a limestone hill, situated southwest of Smoleń Castle (Figure 1). In the inventory of caves and rockshelters of Polish Jura chain the site figures under the numbers: 392 (Kowalski 1951), IV.C.12 (Szelerewicz, Górny 1986) and J.Cz.IV-04.44 (Grodzicki 2011 and a government database http://jaskiniepolski.pgi.gov.pl/).

Entrances of the shelter are of NE exposure (Figure 2). In front of them there is a small terrace, partially covered with large boulders. The surface

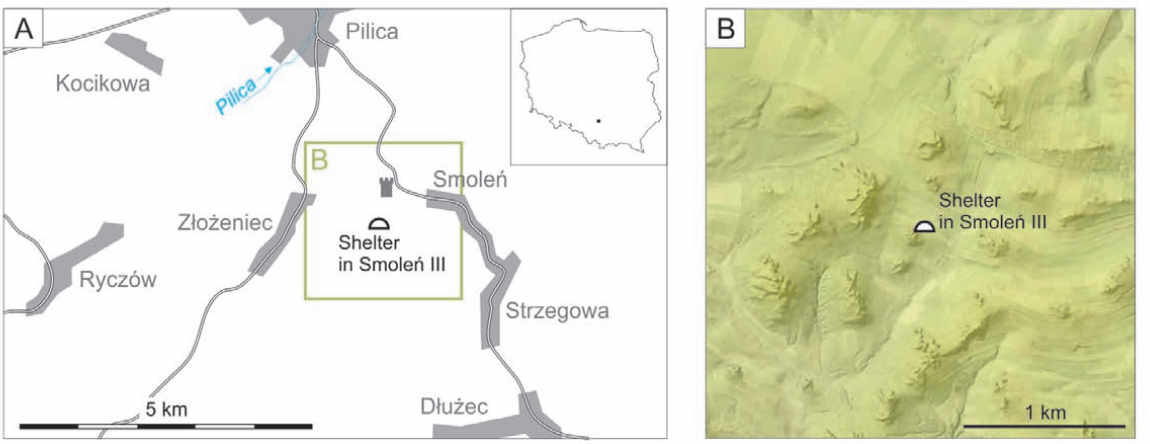

Figure 1. Localization map of the Shelter in Smoleń III (A) and 3D LiDAR digital elevation model of the site's vicinity (B) (drawn by M.T. Krajcarz)

Figure 2. View of the Shelter in Smoleń III to the NE (photo by M. Sudoł)

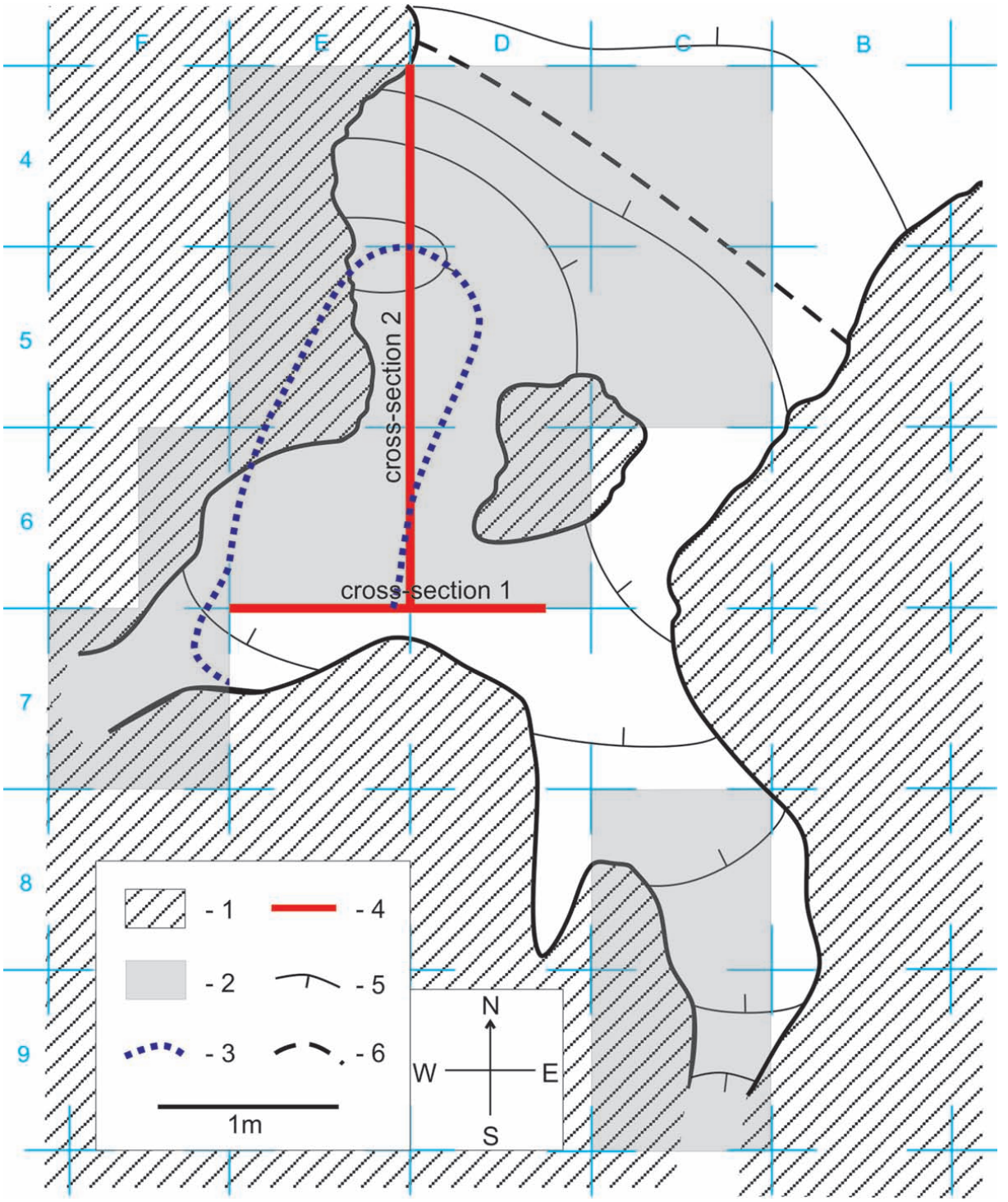

Figure 3. A plan of the Shelter in Smoleń III with regard to the explored area of the cave system (drawn by M. Sudoł, M.T. Krajcarz). Key: 1 – limestone rock, 2 - excavated area, 3 – range of the archaeological feature, 4 – location the cross-sections presented on figure 4, 5 – contour line of the bottom before excavation, 6 – range of the overhang

of cave sediment does not exhibit significant sloping, which means that the site is currently not in the zone of slope processes, and the material can be considered as *in situ* – not displaced by deluvial processes. The situation changes in deeper layers of the archaeological trench, where preserved structures indicate an inclination.

During the field works the area near-entrance was investigated, and partially the sediments inside the shelter (Figure 3:2).

3. STRATIGRAPHY AND PLANIGRAPHY

During the excavations a cave-eolian-slope sediments of a relatively large thickness (up to 250 cm) were uncovered. The cave filling is composed of eleven lithologically differentiated layers or their variants (Figure 4). Differences between layers manifest in colour, grain size, lamination and content of limestone rubble. Layering was marked relatively clearly inside the shelter, vaguely in the area outside – near the entrance.

In the western part of the shelter a large feature in the shape of a basin with its backfill was registered. It was up to 60 cm in depth, 200 cm long in NE-SW axis, and 100 cm wide in NW-SE axis (Figure 3:3). The feature was registered only inside the shelter; its range is also confirmed by the analysis of potsherd planigraphy (Figure 5:3). To the west and southwest it is limited by rock walls, while to the north a few large limestone boulders were registered – possibly a relic of a wall (Figure 5:1). Most of the vessel's sherds were found within the feature, in layer described as 1a/2. Individual fragments were also found in layers 1a, 2 and 4, probably located there as a result of post-depositional processes. Heterogeneous backfill of the feature as a whole was saturated with coal dust and fine charcoals, its content seemed mixed, composed of brown and dark brown humic silty loam. Towards the bottom, the layer becomes brighter and more loamy, which is associated with the fact that the feature was dug in to the loam of layer 4.

It should be noted that on the site not a single potsherd of another vessel was registered, not even from Early Bronze Age or the Middle Ages, despite the findings of traces of human activity in these periods. The potsherds are dispersed along the NE-SW axis, which is partially reflected in the shape of the feature, but is certainly also related to animal activities. Numerous traces of animal burrows were documented within the shelter area. In the northern part of the feature, in a shallow pit, bones of a brown bear were discovered (Figure 5:6-C). It is an indirect evidence for digging up sediments and the destruction of the original layer assemblage. Asides of bear bones a lot of other bone

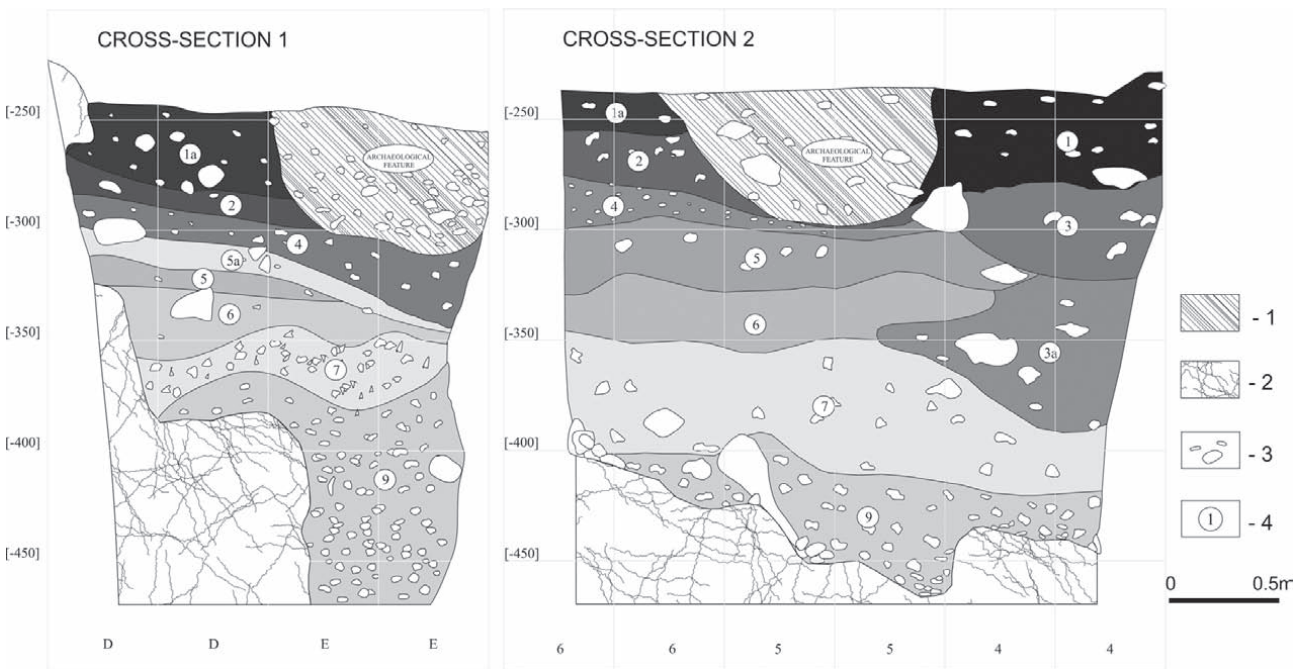

Figure 4. Schematic cross-sections of sediments filling the Shelter in Smoleń III (drawn by M. Sudoł, M.T. Krajcarz). Key: 1 – archaeological feature, 2 – limestone bedrock, 3 – limestone rubble, 4 – layers: 1 – humic sandy silt with plant detritus; 1a – humic silty loam; 2 – dark grayish brown humic silty loam; 3 – brown loam passing downward into loamy gravel; 4 – silty loam to loamy gravel; 5a – loess-like sandy silt; 5 – laminated sandy silt; 6 – laminated silt; 7 – massive silt of loess character; 8 – humic silt (remain of fireplace); 9 – sharp-edged limestone debris passing into limestone regolith

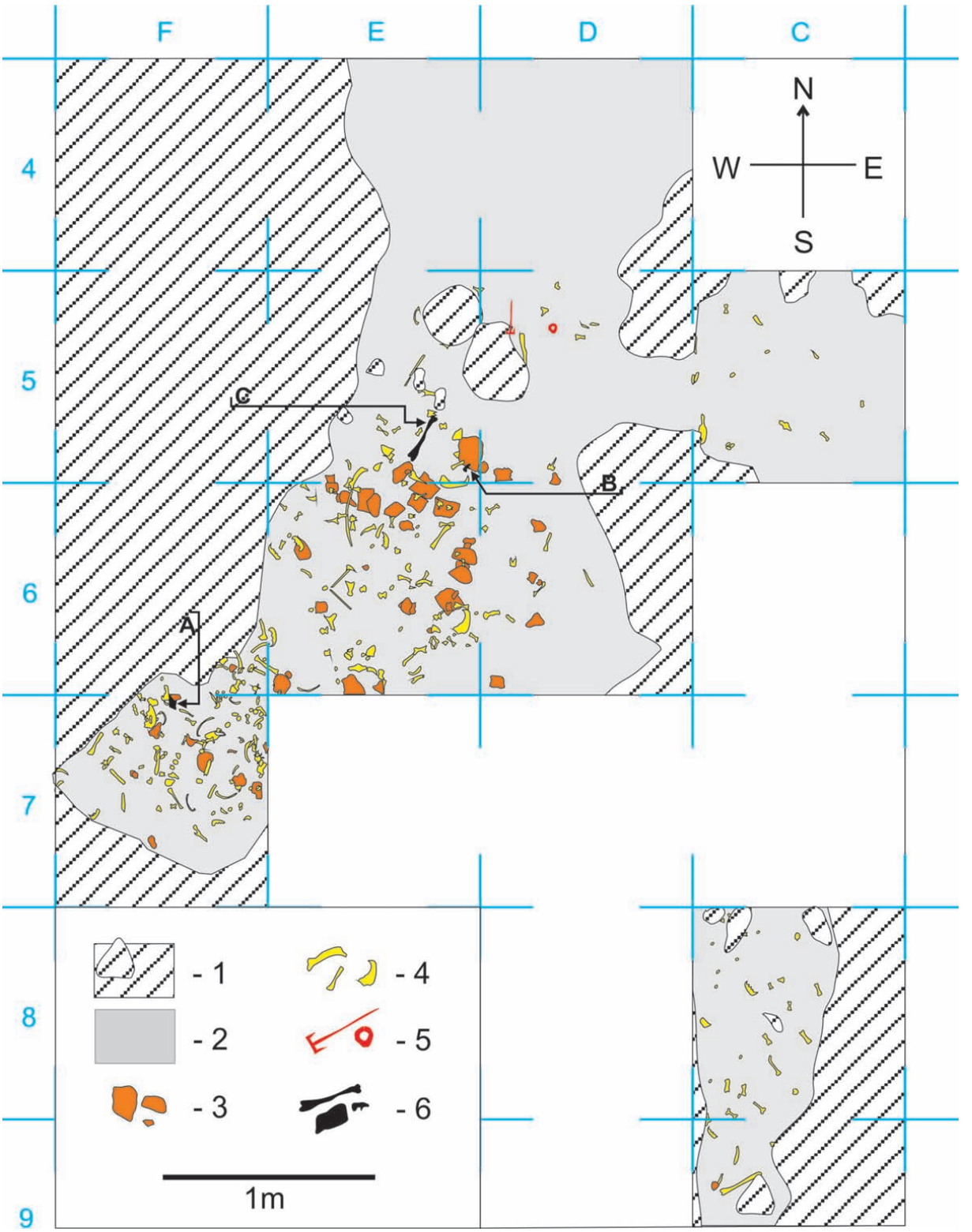

Figure 5. Planigraphy of the artefacts and animal remains (drawn by M. Sudoł).
Key: 1 – limestone rock and rubble, 2 – excavated area, 3 – fragments of pottery vessel, 4 – animal remains, 5 – elements of metal key, 6 – material sampled for radiocarbon dating (A – fragment of ceramic vessel, B – *Felis silvestris silvestris* mandible , C – *Ursus arctos* long bone)

material was documented within the entire feature (Figure 5). Large numbers of wild mammal bones were found, as well as some of domesticated animals. Against this background we can distinguish bones related to human activity, like those with traces of cutting (Figure 5:6-B).

One more artefact was uncovered within the feature and it can be linked with the Late Antiquity of Polish lands. This is a two-piece anchor-shaped key, which was found in the context of the above mentioned boulders at the northern fringe of the feature (Figure 5:5).

4. CHRONOLOGY

Based on typological analysis, the vessel was dated to the second half of the 1st century BC (cf. section 6). This was confirmed by AMS ^{14}C dating of residue collected from the inner surface of one of the vessel' fragments (Figure 5:6-A). A date earlier by more than two centuries was obtained for the wildcat mandible with cut marks (Table 1). Radiometric measurements of bear bones indicate that soon after the deposition of wildcat remains, the site was destroyed by bear activity. Most probably, the animal dug in the sediments in order to make a lair. Traces of smoothing were registered on one of the walls of a rock pillar, close to where bear bones were found. This can be associated with a bear regularly rubbing itself against the wall; analogical traces are known from other Polish caves (Madeyska-Niklewska 1969).

Table 1. Shelter in Smoleń III, results of radiocarbon dating. Calibration using OxCal v.4.2.4 (Bronk Ramsey 2009) using a calibration curve IntCal'13 (Reimer et al. 2013). The age and species attribution of *F. s. silvestris* after Krajcarz et al. (*in press*).

Inventory number	Object	Radiocarbon determination	Calibrated age 95.4%	Lab number
W-382	organic residue	2080 ± 30 BP	191 (94.5%) 38 calBC 9 (0.9%) 3 calBC	Poz-56208
W-93	bone – *Felis silvestris silvestris*	2270 ± 30 BP	400 (49.3%) 351 calBC 304 (46.1%) 210 calBC	Poz-53300
W-123	bone – *Ursus arctos*	2190 ± 30 BP	361 (95.4%) 178 calBC	Poz-53302

5. CHARACTERISTICS OF FINDS

The vessel

The vessel has been partially reconstructed from several dozen large fragments, giving around 70% of the original form, yet allowing a credible reconstruction of its section (Figure 6). It is of a relatively crude made, therefore the metric data will be given in ranges. Height of the vessel is 31.5-32.6, rim diameter 25-30 cm, base diameter 18 cm. It was handmade of clay with temper of diverse granulometry, from fine to coarse: gravel and crushed red rock. Surface of the vessel's lower body is rough, upper body surface is smooth and of an uneven colour – near the rim inside and partially outside it is brown-black, lower external surface changes from dark brown through brick red to light brown. The base is preserved only near the edges – middle part is missing, while the rim and shoulder have been reconstructed almost completely. Considerable hardness of the vessel walls confirms a high quality of firing.

The vessel has proportions of a pot with a wide mouth, and a considerably convexed body, its largest diameter comes at 3/4 of its height. The body comes to the bottom at an obtuse angle, in places the border is concealed and in places the base is slightly protruding. The rim is slightly thickened and because of its negligent finish it is strongly diversified – from a gently rounded, through rounded but with slightly visible edges, to horizontally bevelled with distinct edges. Because of these differences the edge has a "wavy" form, with differences in height up to 1 cm. The rim is very short – only 1.5 cm from the edge to the neck.

On the inner surface of the vessel the black, porous, soot-like residue is preserved, resulting from the incomplete combustion of material cooked

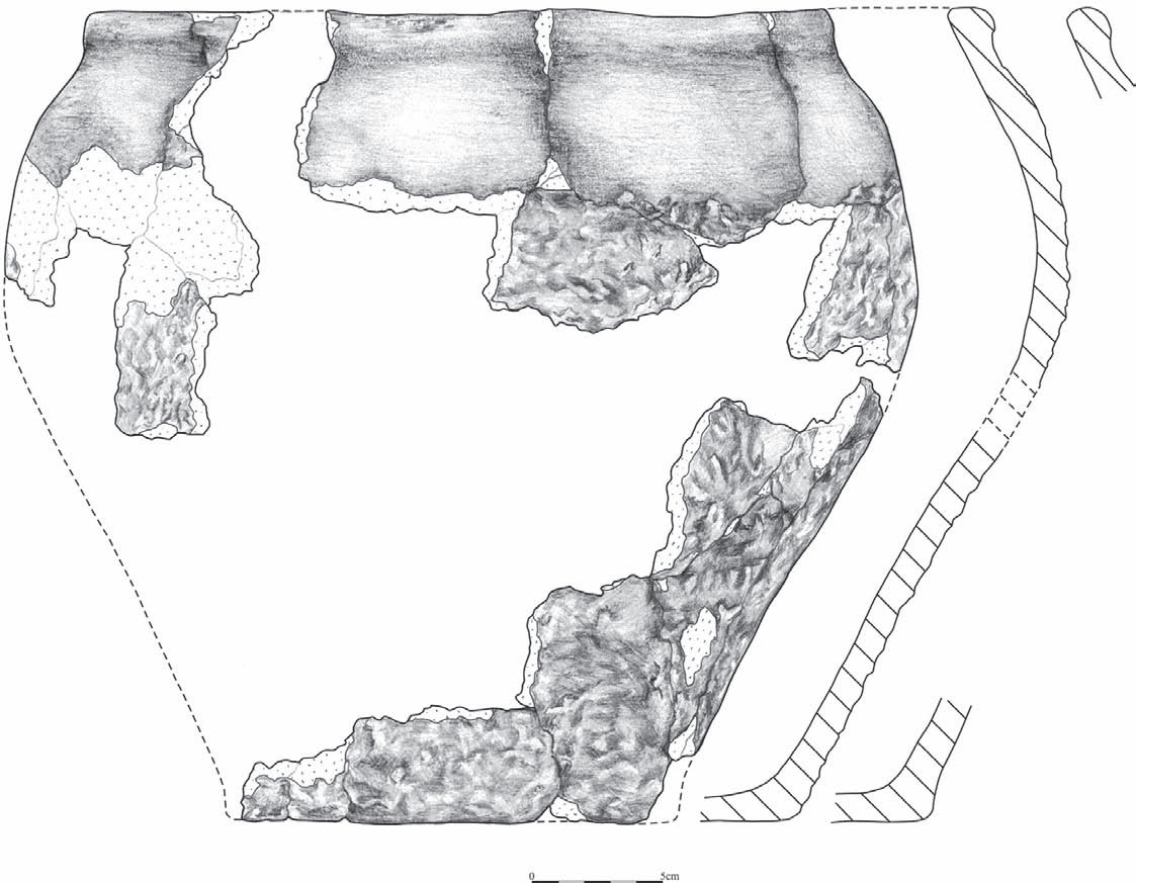

Figure 6. Reconstruction of the ceramic vessel (drawn by J. Ciesielska)

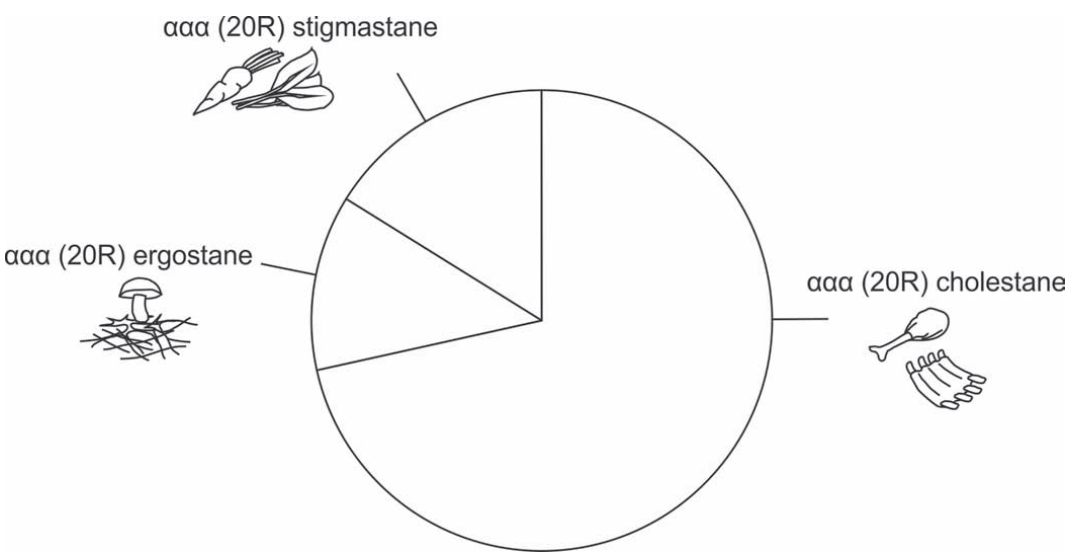

Figure 7. Participation of animal-, plant- and fungi-derived steranes in residue from the vessel from Shelter in Smoleń III (drawn by M.T. Krajcarz)

or baked in the pot. The residue was sampled for gas chromatographic analysis in order to identify the nature of the substances stored or processed in the vessel. Molecular biomarkers – organic compounds indicative of the specific groups of organisms – were extracted from residue in a mixture of dichloromethane/methanol (93:7) in a Soxhlet apparatus, then concentrated and fractionated on silica gel (methodology by Bastow et al. 2007). The analysis was performed in the Laboratory of Chemistry of Water, Soils and Rocks, Faculty of Geology, University of Warsaw, with use of GC-MS device Perkin Elmer Clarus 500.

The residue contains variety of hydrocarbons, both aliphatic straight-chained (*n*-alkanes) and cyclic (polycyclic triterpenes, including steranes and hopanes), and ketones. These are compounds present in living organisms, or products of their transformation in burial environment (ketones, steranes, see Peters et al. 2005). The occurrence of plant-derived material is proved by *n*-alkanes, ketones and stigmastane. Domination of even-carbon *n*-alkanes and a high share of ketones indicate that the plant-derived material has been transformed (Marseille et al. 1999; Wiesenberg et al. 2004) and its original character can not be determined precisely. The presence of two other steranes – cholestane and ergostane – the weathering products of sterols associated respectively with animal and fungal organisms (Summons et al. 2006) indicates the participation of these organisms in the composition of the residue. Comparison of the participation of individual steranes in residue (Figure 7) clearly shows the dominance of cholestane over ergostane and stigmastane. This means that the vessel served mainly as a pot for storage and/or cooking of animal-derived resources.

The key

Two iron objects were uncovered on the site, which are probably both integral parts of one key[2]. The iron anchor-shaped key has a torqued handle (Figure 8:1), which was originally finished with a loop (1-1.5 cm in diameter), presently only partially preserved. An iron ring found nearby is probably an element of the key (Figure 8:2).

The total length of the key is now 21.9 cm (originally around 22.5 cm); the anchor-shaped ending is 5.1 cm wide. Cross-section of the handle is rectangular with a side of 0.5 cm near the loop and 0.7 x 0.9 cm at the fork. The ring, which is perhaps the key's hanger, is 3.6 cm in diameter; the loop frame section is flat and rectangular, 0.2 x 0.6 in size.

Animal remains

The deposit was found with association of over two hundred animal remains. The genesis of this assemblage involves both human activity and natural accumulation of remains. Most of discovered remains constitutes bones and teeth of several taxa of carnivores: European wildcat (*Felis silvestris silvestris*), pine marten (*Martes martes*), red fox (*Vulpes vulpes*) and brown bear (*Ursus arctos*). The remains of domestic species such as: domestic pig (*Sus domesticus*), sheep (*Ovis aries*) and dog (*Canis familiaris*) were also noted in the assemblage. The radiocarbon dating of dog remains revealed that they were deposited before the Roman Period. The chronology of other remains of domestic species was not examined yet with use of ^{14}C dating.

The direct chronological connection with deposits was confirmed in case of European wildcat mandible and brown bear remains (Table 1, Figure 5:6-B,C).

The brown bear bones were found in layers 1, 1a, 2 and mostly in layer 1a/2. They represent one individual. There are no anthropogenic traces on bones, but there are numerous carnivore gnawing marks. Based on epiphyseal fusion the individual age of the brown bear was estimated to about 4 years (according to method by Weinstock 2009). It may be assumed that it was an individual that hibernated and died in a shelter. The presence of brown bear remains as well as rich representation of smaller carnivores suggests that the object might be destroyed due to the activity of these animals.

A unique founding in the assemblage is a small mandible of an European wildcat. The species attribution of this remain was confirmed with DNA analysis (Krajcarz et al. *in press*). The mandible bears a several fine cut marks on a coronoid process and traces of cut on a condyloid process (Figure 9). It may suggest that the animal was skinned before deposition.

[2] At the time of discovery the objects were covered thick with rust. They have been subjected to cleaning and conservation at the Documentation and Conservation Laboratory of the Institute of Archaeology of the NCU.

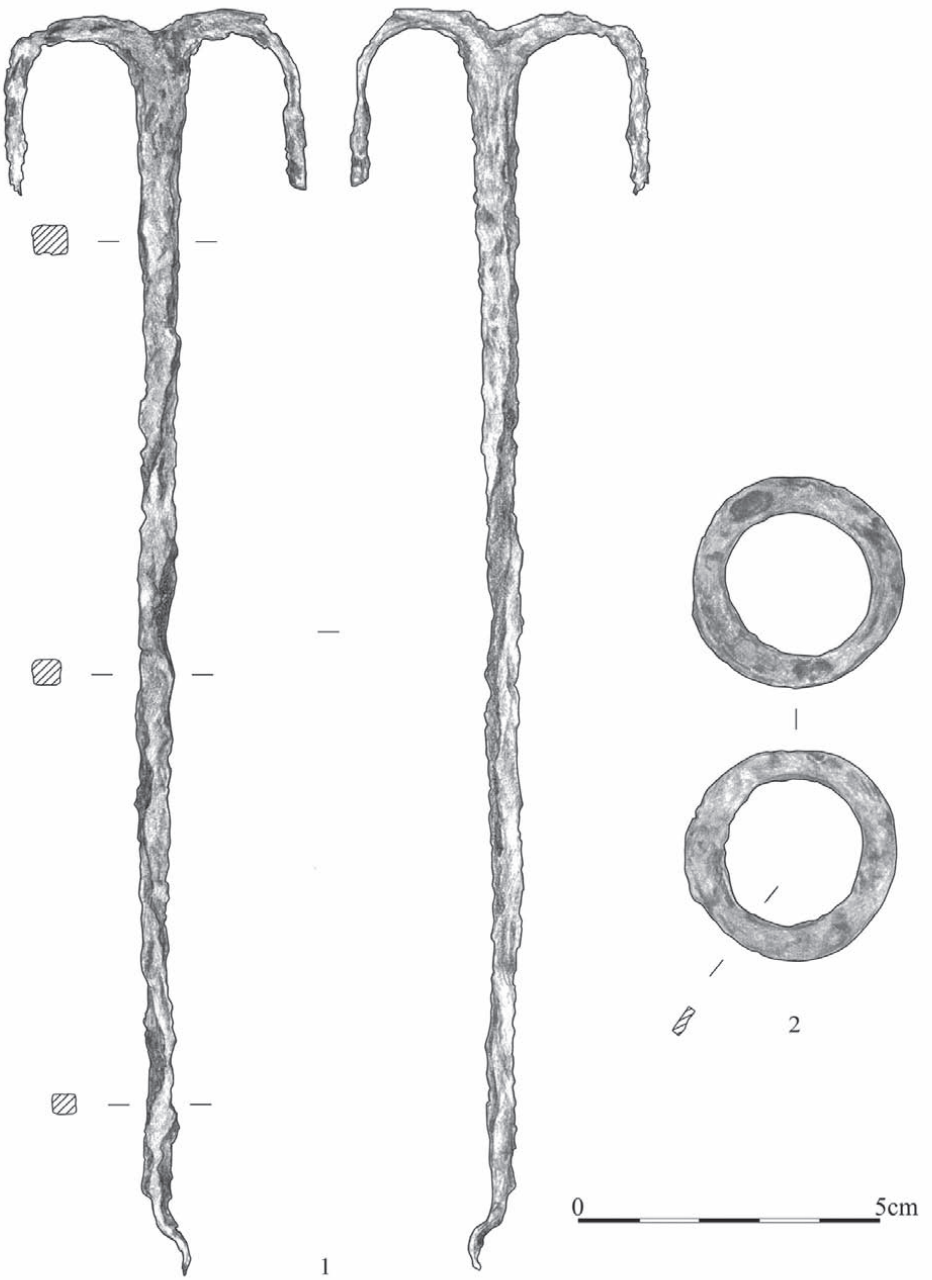

Figure 8. Iron objects: 1 – key, 2 – ring (drawn by J. Ciesielska)

6. ARTEFACTS' COMPARATIVE ANALYSIS

Wide-mouthed pots of rough and slightly convexed body, and short slightly thickened rims are found on Przeworsk culture cemeteries of younger Pre-Roman period. However, in sepulchral areas they are only marginally noticeable among others, far more numerously represented types. Vessels analogous to the specimen from Smoleń occur in assemblages well dated by M type fibula (after Kostrzewski 1919) to A3 phase of the Przeworsk culture – second half of the 1st century BC (Dąbrowska 1988, 62). Relatively numerous, in comparison to other Przeworsk culture necropolis' (for example Dąbrowska 1973, plate XXXII:21), they are represented at the cemetery in Oblin (Czarnecka 2007,

Figure 9. Mandible of the wildcat with cut marks (photo by M. Krajcarz)

plates XXII:26a, 3; LXXVIII:71, 16; CXXVIII:129, 21), where only one such vessel falls to every 30 burials, and they are not identical to the one from Smoleń – and usually preserved only in fragments. Wide-mouthed pots with rough surface and of such large size are a unique find in Przeworsk culture cemeteries (Czarnecka 2007, plate CXXVIII: 129, 21).

In Przeworsk culture of the younger Pre-Roman period the presence of single vessels with rough surface is absolutely unusual in the sepulchral context. Such vessels occur much more often on settlements of the Przeworsk culture (for example Dąbrowska, Dąbrowski 1968, plate III:6; IV:3; Skowron 2006, for example plate XXVIII:2; Bednarczyk et al. 2010, 454; Tyszler 2011, fig. 12:1) and the Celtic-Przeworsk group, within which they are classified as Przeworsk type forms (Poleska 2006, plate 16: 4). On settlements of that last mentioned group the pots analogical to that from Smoleń are classified as Przeworsk culture type "kitchenware" technological group IIB according to Poleska (2006, 102-115). Pots give 80% of this group's vessels (Poleska 2006, 103). The average diameter of their rims is highly varied, ranging from 13 to 38 cm. As can be seen, the Smoleń specimen is located in the upper range of sizes. Wide-mouthed pots of strongly and slightly less convexed body (Poleska 2006, respectively fig. 16:4 and fig. 16:5) usually have rough surface and smoothed surface near the rim (Poleska 2006, 104) – analogical to Smoleń specimen. Short rims smoothly passing into necks (Poleska 2006, for example fig. 16:4-7) are further features consistent with those of the discussed example. Rim of this vessel should be classified as a c variant according to Teresa Dąbrowska, characterising the younger stages of Przeworsk culture pottery development in younger Pre-Roman period (Dąbrowska 1988, fig. 1). In the collections of "kitchenware" I.3 and I.4 type pots (Poleska 2006, respectively fig. 16:4 and 16:5), analogical to that from Smoleń, belong to a basic set of coarse make vessels, both in the Przeworsk culture, as well as in Tyniec group (Poleska 2006, 104-105, there further literature). A similar picture of this category vessels can be found on strictly Przeworsk settlements of the younger Pre-Roman period. Data from five settlements of the said culture from Koleńska Valley can serve as an example (Bednarczyk et al. 2010). Share of rough surface vessels in younger Pre-Roman and early Roman periods together is, depending on the settlement, from 27.3% to 46,6% (Bednarczyk et al. 2010, 454). Similarly as in the Smoleń specimen rims are often short (Bednarczyk et al. 2010, for example figs. 31:4, 5, 7; 34:5, 8, 16, 20) and uneven (Bednarczyk et al. 2010, for example figs. 28:6; 32:10), and the rough surface reaches down to the base (Bednarczyk et al. 2010, for example figs. 29:9; 30:6, 12).

In younger Pre-Roman period the upper Pilica region draws itself as an area extremely poor in traces of human activity. No settlement centres

are found here, neither of "pure" Przeworsk culture population, nor of the mixed Tyniec group (Dąbrowska 1988, map 2; Michałowski 2003, map 11), and the few remnants of a human stay in the said period discovered here are considered to be of West Little Poland influence zone – mixed Celtic-Przeworsk culture group. In this influence zone Zenon Woźniak places the stray find of a spearhead from Smoleń (Woźniak 1970, map 3); after him Teresa Dąbrowska (1988, map 2) marks it on her map in the same way. Map of Celtic graphite ceramics finds from the Tyniec group region (2nd-1st century BC) developing in West Little Poland gives a good picture of the Celtic core of this group. Its northern border can be marked along the upper courses of Nidzica, Szreniawa and Prądnik (Woźniak 1990, 21, fig. 5). Even though this group is separated from Smoleń with a distinct gap, nevertheless, in younger Pre-Roman period there is a much smaller distance separating Smoleń from nearest settlement traces of the Tyniec group than from the traces of Przeworsk culture population activities in the north (Michałowski 2003, map 11).

In this context it should be considered very likely that the discussed vessel from Smoleń was made by a potter working within the mixed Celtic-Przeworsk group, called the Tyniec group.

The metal key belongs to D type of Kokowski's classification. There are only 20 examples of such keys from the territory of *Barbaricum* (Kokowski 1997, 40-41, fig. 42). Asides of three late specimens made of bronze, the remaining ones, like the one from Smoleń, are forged of iron. Most of the anchor-shaped keys are stray finds coming most often from cemeteries or from settlements. Only five of these were uncovered in burials, which allows their dating to younger Roman period at the earliest, while youngest specimen are dated to late phases of Migration period. Nevertheless it is worth mentioning that as many as five specimen discovered in the same region as the key from Smoleń come from the site in Kraków-Nowa Huta – Mogiła (Woźniak 1957, 81, 84, fig. 2a; Woźniak 1960, 341, fig. Id), where remains of the Celtic-Przeworsk Tyniec group settlement were discovered. It seems more likely that these keys must be rather associated with material from a settlement of younger and late Roman period numerously occurring here. The sixth of the keys from the western Little Poland was found as that in Smoleń – in a cave in Prądnik Czajowski (Czarnowski 1912, plate IV:4). Among others things excavated in that cave, there were: remains of human and animal bones – including a cat and a bear, and numerous fragments of vessels, of which, as a result of subsequent verification, some were dated to younger Pre-Roman period (Woźniak 1970). Similar traces of human activity were discovered in other nearby caves, which are mentioned by the aforementioned Czarnowski. It should also be noted that on the site in Mogiła remnants of a medieval settlement were also reported, which is quite important as the anchor-shaped keys are used also in the Middle Ages. They can be found in Avar graves (Fülöp 1984) and on Early Medieval defensive settlements of Poland (for example Kostrzewski 1947, 134, fig. 63; Kostrzewski 1961, 28-29; further literature here) and Germany (for example Krause, Limpach 1966). Two anchor-shaped keys from Perrats cave, Agris commune, Charente dep. (France), are also dated to the Middle Ages; however, as a result of a series of further finds the place was defined as a Celtic sanctuary (Boulestin et al. 2006, fig. 114).

In barbarian Europe these keys appear in the context of Celtic oppidum type settlements, i.e. in Mont Beuvray, Kleiner Gleichberg, Stradonice (Krause, Limpach 1966) or Liptovská Mara (Pieta 2008, 87, 89-90, fig. 41:1). In the first centuries AD anchor-shaped keys were often used in Roman provinces. They are found in camps and cities from Gaul to Pannonia (Krause, Limpach 1966 – there further literature). From here they passed farther north, to the territories of *Barbaricum*, where however, they are discovered on rare occasions in comparison with asymmetric key bit forms widespread in the area (Kokowski 1997). This is partly due to the fact that the anchor-shaped keys, in contrast to the asymmetric ones, were only occasionally placed in graves, and even that probably starting from the beginning of C_2 phase of Roman period to the late phase of the Migration period. On settlements of *Barbaricum* these keys are also rare finds, usually only single examples are uncovered. For this reason the fact of existence of such concentration in Kraków region – seven anchor-shaped keys, two of which were deposited in special places, namely in caves – is worth some consideration.

7. CONCLUSIONS

The series of the Late Antiquity deposits presented in the article are just one of few several cultural episodes that were observed in the Shelter in Smoleń III. Traces of human activity in early periods of Bronze Age and in the Middle Ages were also discovered in Holocene sediments, while in Late Pleistocene loess – the trace of a short-term stay of Palaeolithic hunters was recorded (Sudoł, Krajcarz 2014; Sudoł et al. *in press*).

Amongst the deposits of the last centuries of Antiquity, the most strongly marked are those around the 3rd century BC, when in the Little Poland the Celtic and than the Celtic-Przeworsk culture groups developed. In the world dominated by Celts any traces of this kind of activities are rarely found in caves, though more often on Iberian Peninsula, less in France (Almagro-Gorbea, Lorrio 2004, fig. 1; Gomez de Soto et al. 2003, there further literature). That, however, is rather the outcome of the state of research than of actual lack of significance of caves in the world of Celtic beliefs. This is attested by the fact that in Medieval Celtic literature we find numerous threads about *sidhe* – places and being that can be accessed through burial mounds and various types of elevated places, where the caves constitute a natural route leading to the underworld (Carey 2006a; 2006b). Spectacular discoveries were made in a cave La Grotte des Perrats in south-western France, a sanctuary active from the 4th to the 2nd century BC (Boulestin et al. 2006). A number of deposits of the period of our interest were uncovered there, such as weapon elements, fragments of vessels, and animal bones, including some with cut marks. Only exceptionally the human remains are found in these caves that may be linked with the era of Celtic domination or more generally – the Iron Age. Noteworthy is the similarity of the deposit composed of seven human mandibles in Han-sur-Lesse cave, Namur prov. in Belgium (Bourland 2014, 13), which is associated with the Celtic cult of head, to finds of some single human mandibles in caves around Kraków (Ossowski 1880, 46-49; Czarnowski 1912, 6). This category also includes the assemblages of prehistoric human skeletons found in caves of Polish Jura chain. These are certainly of the sacred sphere, and many of them are dated to the Late Antiquity, though some researchers reject the possibility of clear connection of these finds with the Przeworsk culture (Dobrzańska 2006, 519-520). In Kroczycka Cave the remains of several dozen people were found (Mycielska, Rook 1966), although this is the single find of such magnitude. A dozen or so of other caves supplied subsequent, yet not as numerous, remains of people sacrificed there (Ossowski 1881, 29; Czarnowski 1901, 63; Sobczyk, Sitlivy 2003).

In the context of the possible uses of caves by Celts, it is worth mentioning that the special importance of cats among Celts was highlighted in Irish customary law (relating to these animals), written down probably in the 7th century AD in one of the chapters of *Senchas Már* (The Great Tradition) (Kelly 2006).

In case of the rock shelter in Smoleń there are no clear links with the Celtic world, however, in the light of the foregoing, it is likely that during the last two centuries BC this area was in range of penetration of Celts who settled in the region around Kraków.

Considering the small area of the shelter, multiculturalism, the character of finds and especially the deposits described above (and their analogies), something more than just material importance of this place has to be considered, not only in the Late Antiquity. This shelter over the centuries was visited from time to time; however, it seems that rather for purposes related to the domain least tangible for the archaeologist, that is sacred.

Relics of anthropogenic character uncovered in the shelter meet analogies across similar sites in Europe; particularly numerous in other caves of southern Poland. On the territory of the Polish Jura chain the Przeworsk culture sites were registered in more than 30 shelters and caves. Among the artefacts, the ceramic vessels predominant, much less common are coins, elements of belts, fibulae and toiletry objects. Most of these are dated to late Roman period and early phase of Migration period (Woźniak 2006; Dobrzańska 2006; Wagner 2008). Interpreting these findings, researchers focused almost exclusively on economic and political context, while the possible linkage with the realm of sacrum was only mentioned.

The described finds from Shelter in Smoleń III represent an important contribution to further considerations of the issues raised for the region; in particular, the necessity of extensive interdisciplinary research in terms of extraction of various (in

terms of chronology) elements from the seemingly homogenous group. In addition, this study allows to look from a different prospective at the seemingly poor materials from the last centuries of Antiquity, that were found in caves.

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The area where the shelter is located, lies on land owned by the State Forests National Forest Holding, within Olkusz Forest District, Smoleń Forestry. As around Smoleń there are mountain sycamore community (*Phyllitido-Aceretum* Moor 1952) forest habitats, covered by the "Natura 2000" programme and the "Central-Jura Refuge" Special Programme of Conservation, the place and course of field work were repeatedly consulted with Olkusz Forest District and Smoleń Forestry. The authors express their gratitude for the commitment and kindness in the course of work.

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