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Once again on the Early Iron Age chronology at the lower Danube, new radiocarbon data from Babadag

Sorin-Cristian Ailincăi, Laurent Carozza, Alexandra Țârlea

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ANCIENT THRACE: MYTH AND REALITY

THE PROCEEDINGS OF THE THIRTEENTH
INTERNATIONAL CONGRESS OF THRACOLOGY
KAZANLAK, SEPTEMBER 3 – 7, 2017



VOLUME ONE

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International Congress of Thracology

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КОНГРЕС ПО ТРАКОЛОГИЯ
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SOFIA, 2022

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The four organizing institutions of the 13th International Congress of Thracology in 2017 have each celebrated important anniversaries thereafter:

- 130 years since the foundation of the National Museum in Sofia (1892) [now the National Archaeological Museum affiliated to the National Archaeological Institute];
- 120 years since the foundation of the Museum Iskra in Kazanlak (1901);
- 100 years since the establishment of the Department of Archaeology at the St. Kliment Ohridski University of Sofia (1920);
- 100 years since the foundation of the Bulgarian Archaeological Institute (1921);
- 100 years since the establishment of the Department of Classical Philology at the St. Kliment Ohridski University of Sofia (1922);
- 50 years since the foundation of the Institute of Thracology at the Bulgarian Academy of Sciences (1972) [now a Center of Thracology affiliated to the Institute of Balkan Studies].

The editors dedicate the publication of the congress proceedings to the commemoration of these six events.

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ONCE AGAIN ON THE EARLY IRON AGE CHRONOLOGY AT THE LOWER DANUBE. NEW RADIOCARBON DATA FROM BABADAG

Sorin-Cristian Ailincăi, Laurent Carozza, Alexandra Țârlea

Introduction

The Early Iron Age settlement from Babadag (SE Romania) is well known due to the archaeological excavations conducted here, with some interruptions, between 1962 and 2010. These researches evidenced the existence of an impressive stratigraphy, over 2 m, which can be split into six archaeological layers dated to the beginning of the 1st millennium BC. In 1964, Sebastian Morintz published an attempt to relative and absolute chronology for the settlement and extending it to the entire Babadag culture.¹ This chronological system, reconfirmed later by the same researcher,² was based on the existence of 3 phases of evolution stratigraphically evidenced in the case of the Babadag settlement. Thus, the first and oldest phase was characterised by the decoration of pottery using exclusively incision motifs. This phase was paralleled with level VIIb₂ from Troy and was dated to the second half of the 11th century BC. The second phase was dated in general lines to the 10th-9th century BC and it was characterised by the decoration of pottery with stamped motifs. The third phase was characterised by channelled pottery and it was considered contemporaneous to the Basarabi phenomenon, being dated in general lines to the 8th century BC.³

This chronology was recently challenged following the study and publication of large batches of archaeological material from Babadag and other contemporaneous sites (Enisala, Niculișel, Revărsarea, Jijila, Garvăn). From our point of view, the existence of the phases I and III (after Morintz) can be put to question.

In most cases, the three decoration techniques are associated in closed complexes.⁴ Even more, these decoration techniques and certain types of decoration bands seem to have been associated with specific categories of ceramic recipients.⁵ In fact, the Babadag culture can be completely confined inside the Early Hallstatt horizon with stamped pottery, together with other ceramic groups like Pșenițevo, Insula Banului, Cozia, or Saharna-Solonceni.

The ¹⁴C data from Babadag

As it was already mentioned, from the point of view of the absolute chronology, the evolution of the Babadag culture was dated to the interval between the end of the 11th/10th – middle of the 8th century BC, based on metal objects and relations with anterior, contemporaneous and ulterior cultural manifestations.⁶ Because very precise dating elements were absent, the necessity of conducting ¹⁴C dating in order to determine a more precise interval for the evolution of the Babadag culture was mentioned very often in the archaeological literature.

A first series of three ¹⁴C data was conducted in 2012 for the settlement from Babadag. The analyses were conducted on cattle bones, collected from Sector Squares 5-9, pits 42, 44, and 45 (**Table 1**). These pits, investigated during the 2010 campaign, were dug out directly in the sterile soil and were attributed to the oldest habitation level from Babadag (level 6). All these complexes contained both incised and stamped pottery (**Figs. 1-3**).

Taking into account the three data (**Table 1**), it can be considered that the settlement from Babadag began its existence bet-

1 Morintz 1964.

2 Morintz 1987.

3 Morintz 1964; 1987; Jugănaru 2005.

4 Ailincăi 2013; 2016a.

5 Ailincăi 2011; 2016b.

6 Ailincăi 2010; 2013; 2016a; Ailincăi et al. 2014.

Lab. No.	Context	Material	¹⁴ C Data	Remark	Results of the OxCal 4.3.2 calibration
Poz-49880	Babadag 2010, level 6, pit 45	bone	2805±30	2.4%N 5.0%C	996BC (68.2%) 921BC 1046BC (94.2%) 894BC 866BC (1.2%) 854BC
Poz-49881	Babadag 2010, level 6, pit 42	bone	2820±30	3.2%N 7.4%C	1006BC (68.2%) 929BC 1054BC (95.4%) 899BC
Poz-49882	Babadag 2010, level 6, pit 44	bone	2805±30	3.6%N 8.5%C	996BC (68.2%) 921BC 1046BC (94.2%) 894BC 866BC (1.2%) 854BC

Table 1. The ¹⁴C data from Babadag.

ween 1054 and 854 BC (probability 95.4%) (Fig. 4/1.b). Calculating the beginning and end limit indicated by the three data shows that the most precise median data are 999 BC (for the beginning of the phase – Fig. 4/1.c) and 924 BC (for the end of the phase – Fig. 4/1.c). The similarity between the data offered by the three samples taken from different complexes is still remarkable. These indicate that the first habitation of the settlement from Babadag can be dated securely during the 10th century BC (Fig. 4/1).

Discussions

These three data, to which one from the settlement from Niculițel⁷ could be added, are the only ones known so far for sites of the Babadag culture (Fig. 4/2). Although still insufficient for a more detailed analysis, these data can indicate in a certain degree the chronological position of the sites with Babadag pottery in relation with other cultural manifestations. In fact, there are relatively few ¹⁴C data known up to present for the Carpathian-Danube area for the end of the Bronze Age and the beginning of the Early Iron Age.

The data known so far from the Noua cultural milieu, from sites such as Mahala,⁸ Crasnaleuca,⁹ Odaia Miciurin¹⁰ or Rotbav,¹¹ indicate a chronological interval clearly antedating the data from Babadag, while the data from Durankulak indicate the possibility of the existence of

the Coslogeni culture also during the 11th century BC.¹² Very interesting also are the data offered by graves 32 and 41 from Câmpina,¹³ which show chronological intervals similar to those from the debut of the settlement from Babadag. Although grave 42 did not offer funerary inventory, grave 32 contained a vessel considered by the author as decorated in the specific style of the Tei culture.¹⁴

If we try a comparison to the ¹⁴C data collected from sites with channelled pottery of Gáva type, we can notice that the data from Siret¹⁵ represent with certainty an earlier chronological interval, while the data known from Teleac,¹⁶ Vlaha,¹⁷ Popești¹⁸ or Pusztataskony–Ledence¹⁹ indicate chronological intervals contemporaneous more or less with those known from the Babadag milieu (Fig. 4/3). The same superposition can be noticed comparing our data to those from the necropolises of the Bełozerk culture from Stepnoj²⁰ and Kockvatov,²¹ or from the site belonging to the Belogradovka culture – Subotovo (especially phases II-III), on

7 Ailincăi et al. 2017, 220-223 (Poz-72606: 2730±35 BP).

8 László 2015, 304 (Bln-1086: 3260±100; Gak-2448: 3390±90; Bln-1085: 3135±100; GrN-5135: 3100±50 BP)

9 László 2015, 304 (GrN-21797: 3250±50; GrN-21798: 3240±40; GrN-21796: 3190±45 BP).

10 Kaiser, Sava 2009, 147-159 (KIA31490: 3077±26; KIA31491: 3016±28; KIA31492: 30106±27; KIA31493: 2992±22; KIA31494: 3077±27; KIA31495: 3077±31; KIA31496: 2996±32; KIA31497: 2979±24; KIA31498: 2981±26; KIA31499: 3023±25 BP).

11 Dietrich 2014, 62 and sqq. (Hd-27972: 3085±23 BP și Hd28276: 3196±30 BP).

12 A first series of four data were offered for House 15 from the SW part of the island, but with intervals which seem to be too old (the area was periodically flooded, situation which could have affected the precision of the results): 3400±60 BP, 3490±60 BP, 3160±60 BP, 3910±70 BP. The second group of data comes from Houses IVa, Vb and I, indicating for the end of the habitation the following results: 2960±60 BP, 2850±50 BP and 2930±50BP (Görsdorf, Bojandžiev 1996, 150-151).

13 Frînculeasa 2014, 81 (Hd-30840: 2858±23; Hd-30837: 2819±24).

14 Frînculeasa 2014, 66-67.

15 László 2010, 121-132 (Bln-5788: 3056±50; Bln-5786: 3006±37; Bln-5790: 2987±49; Bln-5789: 2929±65 BP).

16 László 2015, 304 (cca. 2830±30 BP).

17 László 2015, 304 (DeA-5095: 2856±25; DeA-5097: 2743±23).

18 Palincaș 2004-2005 (VERA-2512: 2795±30 BP).

19 Kiraly et al. 2013, 309 (Poz-41895: 2640±30 BP)

20 Ostroshchenko 2003, 336 sqq. (Ki-575: 3050±70; Ki-889: 2850±40; Ki-885: 2805±55; Ki-887: 2700±45; Ki-886: 2690±50; Ki-9823: 2920±50; Ki-9596: 2915±45; Ki-9820: 2880±55; Ki-9821: 2930±55; Ki-9822: 2780±55).

21 Ostroshchenko 2003, 363 (Ki-1471: 2900±45).

Middle Dnieper, where the stamped pottery is also abundant.²²

Taking into consideration the data from sites with stamped pottery, we can notice that the data from Babadag indicate a probability interval slightly earlier than that from Niculițel–Cornet,²³ despite the fact that the pottery presents many similarities, and from the data known from Svilegrad²⁴ (Pšeničevo culture, Bulgaria) (Fig. 4/2).

Interesting is also the comparison with the known data from Troy, indicating the contemporaneity between the Babadag milieu and level Troy VII b_{2,3},²⁵ while those from level VIIb₁²⁶ indicate an earlier chronological interval (Fig. 4/4).

Conclusions

The ¹⁴C data obtained from the settlement from Babadag sustain in a certain degree some theories regarding the apparition of the stamped pottery in the Lower Danube region. First, it should be emphasised that there are enough indicia on a possible existence of the Coslogeni culture during the 11th century BC, based both on the chronological data from Durankulak and on the dating of certain metal objects, such as the brooch with one spring from Coslogeni.²⁷ Secondly, as we mentioned in previous occasions, the sites belonging to the Babadag culture were preceded, at least for the eastern part of Muntenia, by sites with channelled pottery, of Gáva tradition.²⁸ These observations are further sustained by the settlement from Vlădești–Popina Lată (found in the area of the Babadag culture, but without containing stamped pottery), the stratigraphy of the settlement from Căndești, the stratigraphy of the necropolis from Sboryanovo, and other finds from Bulgaria. In the same time, in the southern part of Moldova, between

the end of the Noua culture and the apparition in this area of the Babadag culture, there are interposed other cultural manifestations. In this situation are both the Corlăteni group (the stratigraphy from Căndești), present in the area from the 12th century BC, and a horizon characterised by incised pottery, represented until now by the settlement from Tămăoani and the necropolis from Foltești (possibly dated to the 11th century BC – the Belozerka culture). In these conditions there are still some question marks regarding the duration, spatial evolution and succession of several pottery styles from the Lower Danube in the interval preceding the Babadag style.

As the ¹⁴C data known so far and other elements of absolute chronology indicate, we can date the Babadag culture to the 10th-9th century BC, a chronological frame to which are also attributed in general the other groups with stamped pottery. The presence of the stamped and incised decorations at the beginning of the Early Iron Age in SE Europe should be linked in particular to the Protogeometric. This connection is sustained by the associations with pottery decorated in this style from Troy VIIb₃ and Kastanas (levels 10-4), as well as by some analogies already brought forward by Bernhard Hänsel and others among the finds from Babadag, Ljubenkova, Ovčarovo or Rogozinovo and Protogeometric sites in Greece.²⁹

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22 Гершкович 2016, 181 and sqq. The ¹⁴C data are given there unfortunately only with the calibrated age as BC.

23 Ailincăi et al. 2017.

24 Nekhrizov, Tzvetkova 2012, 189 (2700 ± 40 BP).

25 Koppenhöfer 1997; László 2015, 305 (2820±55; 2812±56; 2795±32; 2786±42).

26 Koppenhöfer 1997; László 2015, 305 (3043±29; 2988±31; 2963±31; 2950±48).

27 Neagu, Basarab 1986, 114, Fig. 18, 24.

28 Ailincăi 2013; Ailincăi 2016.

29 Hänsel 1976; Stoyanov, Nikov 1997, 195 sqq.

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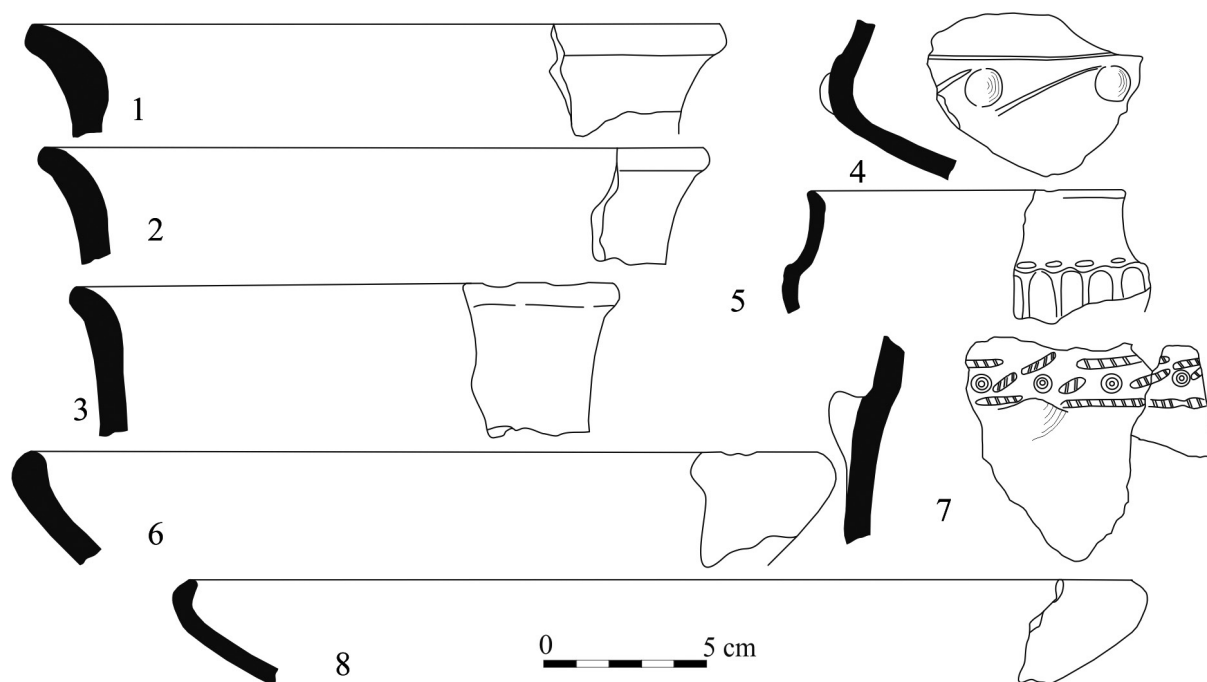


Fig. 1. Inventory of pit 42.

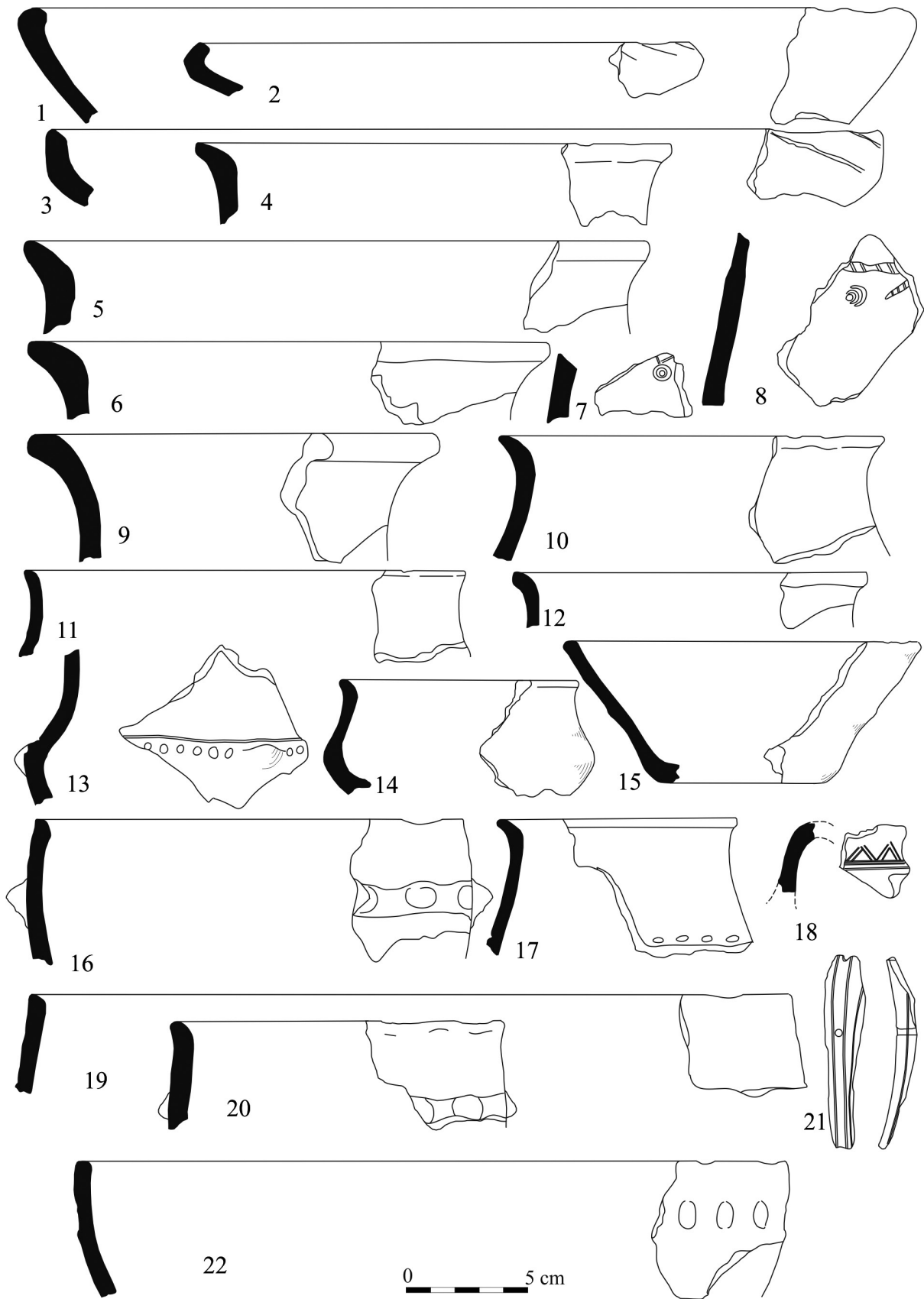


Fig. 2. Inventory of pit 44.

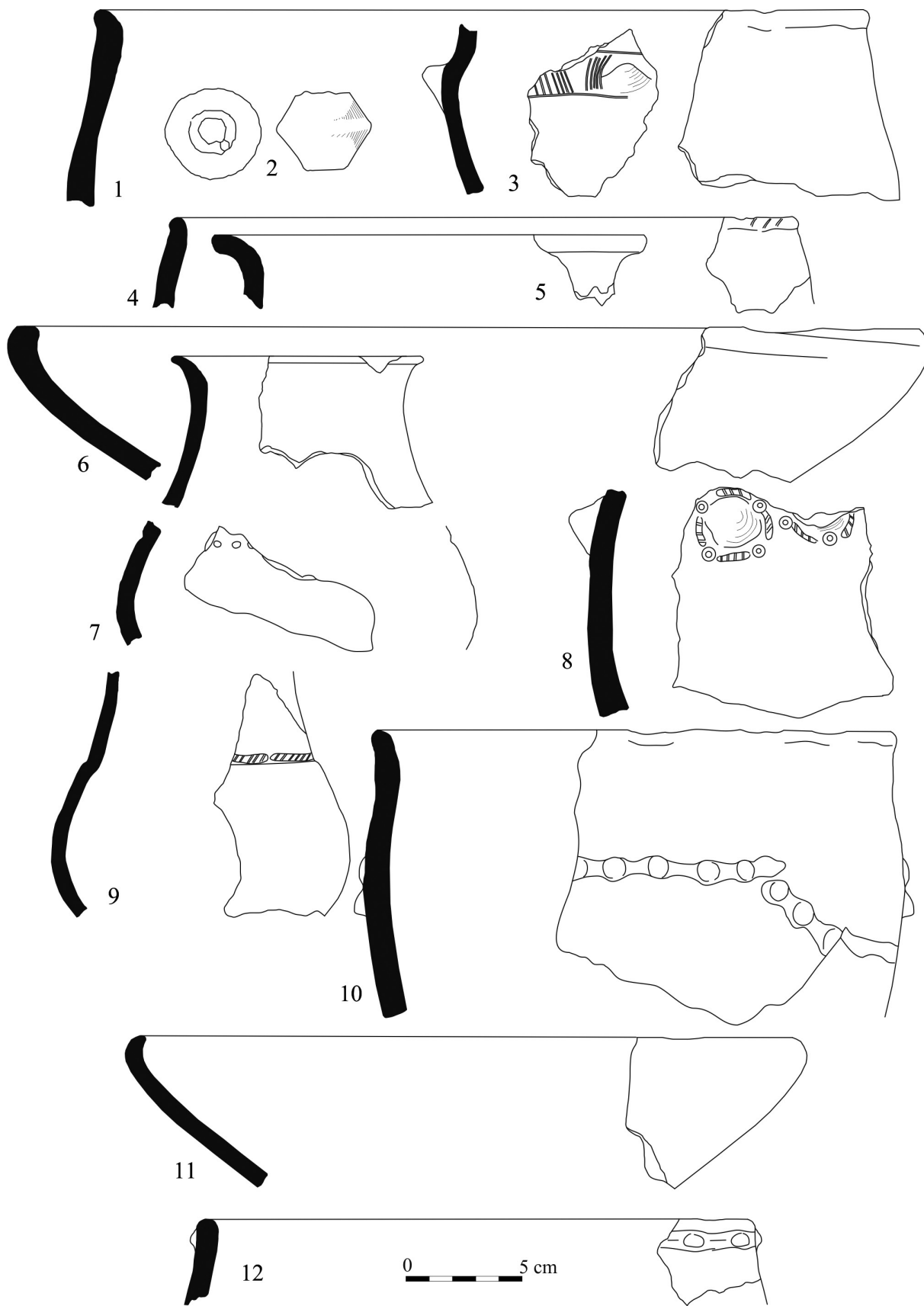


Fig. 3. Inventory of pit 45.

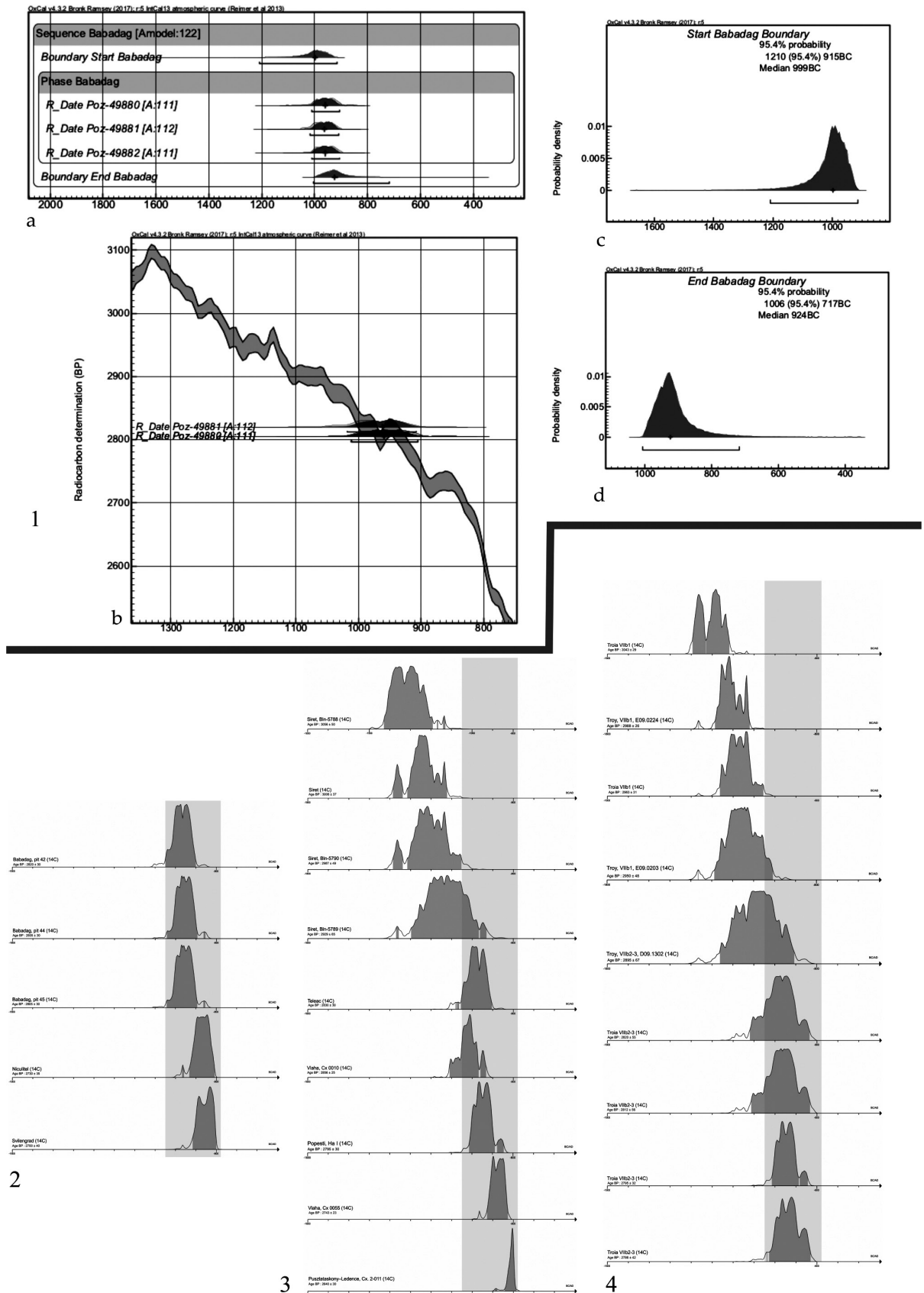


Fig. 4. 1. Modelling of the ¹⁴C data from Babadag; 2. Comparative graphic of ¹⁴C data from EIA sites with stamped pottery; 3. Comparative graphic of ¹⁴C data from EIA settlements with channelled pottery; 4. Comparative graphic of ¹⁴C data from Troy VII.



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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial data. This includes not only sales and purchases but also expenses and income. The document provides a detailed list of items that should be tracked, such as inventory levels, supplier payments, and customer orders. It also outlines the procedures for reconciling accounts and identifying discrepancies.

The second part of the document focuses on the analysis of financial data. It describes various methods for interpreting the recorded information, including trend analysis and ratio calculation. The document explains how these techniques can be used to identify patterns, assess performance, and make informed decisions. It also discusses the importance of comparing current results with historical data and industry benchmarks.

The final part of the document addresses the reporting requirements for the financial records. It details the format and content of the reports that should be generated, such as monthly statements and annual summaries. It also provides guidance on how to present the information in a clear and concise manner, using tables and charts where appropriate. The document concludes by emphasizing the need for transparency and accountability in all financial reporting.