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Chronological sequence of the Early Bronze Age graves in the Pamukli Bair Barrow at Malomirovo and the Pit-Grave Culture expansion in the Middle Tundzha Valley

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Abstract

The archaeological excavations of a joint Polish-Bulgarian team in 2021 at the the Pamukli Bair Barrow, near the village of Malomirovo in the Middle Tundzha River Valley, Upper Thrace, revealed ten Early Bronze Age graves, three Middle Bronze Age graves, and a Late Antique grave. Three constructive and five chronological phases were distinguished in the Bronze Age life of the barrow. The sequence of the Bronze Age features was additionally sustained by 19 radiocarbon dates, for which a Bayesian model was created. The first constructive and chronological phase dated back to 3104–2922 cal. BC (with an even earlier possible dating for one of the features, 3321–3016 cal. BC) and is related to three inhumation burials in a semi-supine position, with the head to the east, as well as scattered bones of a male individual. Three small barrow fills were piled above the three graves. The second constructive and chronological phase dated back to 2911–2892 cal. BC and is related to two graves that present all the characteristics of the Early Pit-Grave Culture. Feature 17 yielded three stone anthropomorphic stelae as well. The second barrow fill was constructed above these two graves. The third constructive and chronological phase dated back to 2881–2808 cal. BC and is related to two more features that could mark the end of the Early Pit-Grave period. Above them, the last barrow fill was piled and thus, the barrow reached its modern dimensions. Two Late Pit-Grave Culture graves were dug in the central part of that fill. They mark the fourth chronological Bronze Age phase dating back to 2681–2506 cal.

BC. The fifth phase dated back to 1736–1623 cal. BC and is related to three contracted burials dug in the southern sector of the barrow. The Malomirovo sequence is the largest set of radiocarbon dates from a Bronze Age barrow in Upper Thrace. The combination of stratigraphic evidence and radiocarbon dates makes it a good starting point for further chronological and morphological studies of the Early and Middle Bronze Age mortuary practices in the region.

Key words: *Early Bronze Age – Upper Thrace – mortuary practices – barrow graves – Pit-Grave Culture.*

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It was only in the twenty-first century that the Early Bronze Age (EBA)[1] barrow graves in the Middle Tundzha (*Tonzos*) Valey became the target of systematic research and analytical studies (fig. 1). Since 2004, 19 barrows were excavated there, with more than 100 EBA graves investigated (fig. 2). Currently, the complete information about the investigations of only six barrows of this lot has been published (Agre 2015; Iliev & Bakărdžiev 2020), only a few radiocarbon dates are available and the stable isotopes- and paleo-diet analyses are in their beginning (Gerling 2015; Privat et al. 2018).

Generally, the mortuary practices reflected in the EBA barrow graves from this area and, on a larger scale, from Upper Thrace, have been considered different from the ones north of the Balkan Range. This is suggested by the large number of graves in the barrows in the Tundzha area (up to 16 in a single barrow) and the presence of visible cultural connections to the local EBA communities as seen in the pottery in some of the burials. However, one of the issues discussed was the importance of the expansion of the Pit-Grave Culture (PGC)[2] in the changes observed in the funerary rituals in Upper Thrace during the EBA (Kaiser & Winger 2015; Alexandrov & Kaiser 2016; Alexandrov 2020).

As this small introduction clearly shows, the EBA barrow graves in the Middle Tundzha Valley could provide a large set of data that would help for a better understanding of the EBA development in Upper Thrace and, on a larger scale, in the Eastern Balkans. This was one of the reasons for the joint Polish-Bulgarian team to investigate a BA barrow there, trying to collect as much new evidence as possible related to the questions discussed above. Such a barrow was investigated in 2021 near Malomirovo village. The excavations revealed a sequence of graves from the Early and Middle Bronze Age that, in our opinion, could be a good starting point for a discussion on the chronology and nature of the barrow graves there as well as on the cultural changes in Upper Thrace during the fourth–third millennium BC.

The Pamukli Bair Barrow at Malomirovo

The excavated barrow was located at the top of a prominent hill called Pamukli Bair (fig. 3) rising above the valleys of Popovska and Kurudzhadere Rivers (left-bank tributaries

[1] This article uses the tripartite division and chronology of the Bronze Age in Bulgaria; cf. Leshtakov 2006; Alexandrov 2018.

[2] In recent years, the term *Yamnaya/Yamna Culture* has also been frequently used.



Figure 1. *Map showing the region of the Middle Tundzha River. Image Credit: OpenStreetMap and the authors.*

of the Tundzha River) near Malomirovo village (Elhovo Municipality, Yambol District). It is a part of a barrow cemetery aligned west-east that includes the famous Goliamata Mogila Barrow, with several Bronze Age burials as well as a royal grave of the fourth century BC investigated (Agre 2011). Before the twenty-first century, the Pamukli Bair Barrow survived in good condition. However, in the last decades, several looters' trenches disturbed its central part. At the start of excavations in 2021, the scars of these destructions were clearly visible as depressions in the central part of the barrow. In the bottom part of one of the trenches made in 2005, the looters found an inhumation grave, the bones of the buried person/s showing signs of thick red ocher coloration. During the rescue intervention, the archaeologists found two golden hair-rings near the damaged bones that are currently curated at the Elhovo Museum (Alexandrov et al. 2018, 475, cat. Nos. 144 and 145).

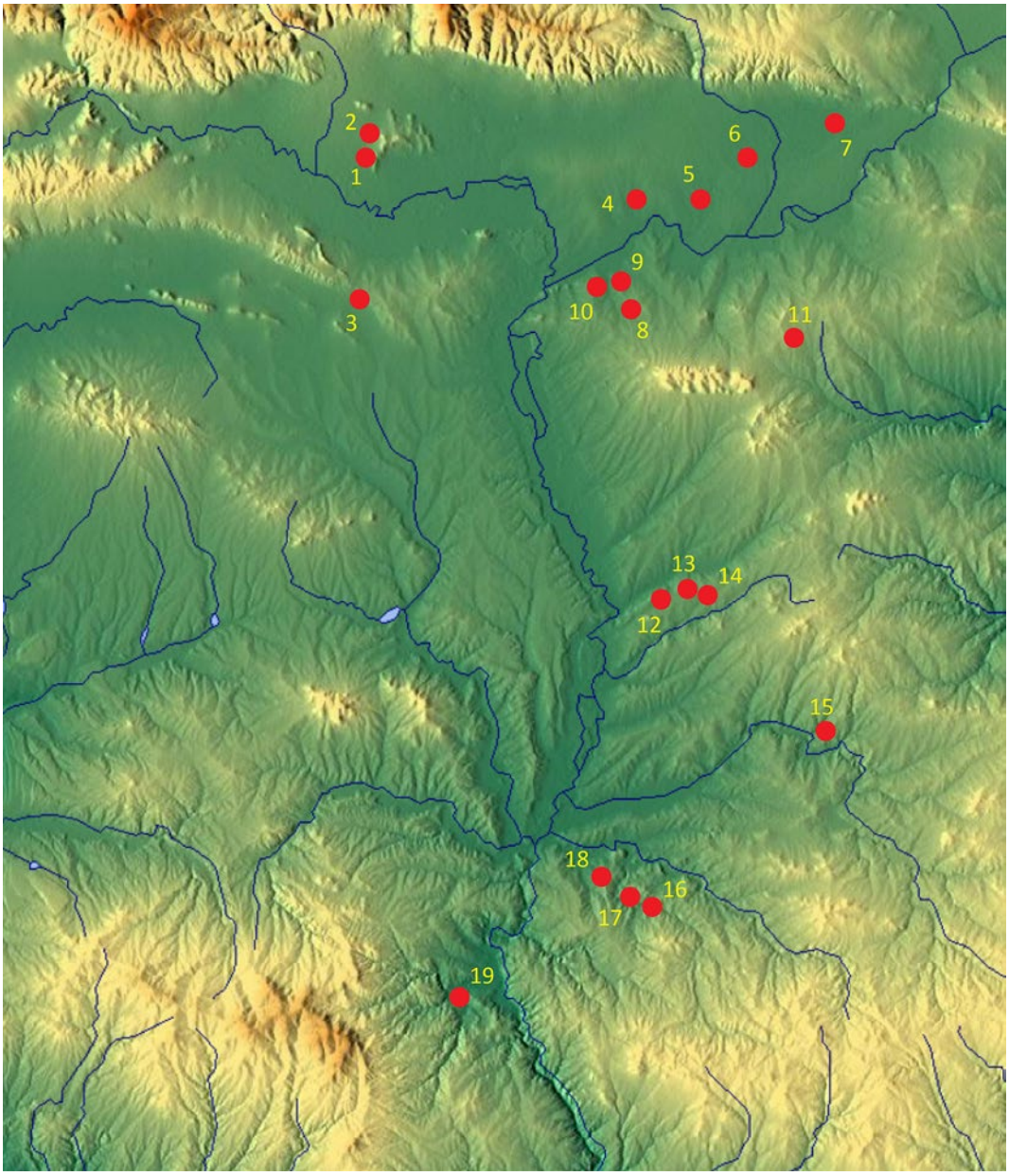


Figure 2. *Map showing the investigated Bronze Age barrows in the Middle Tundzha River region: (1) Gabrova Barrow, Kamen; (2) Shekerdza Barrow, Kamen; (3) Sabev bair, Drazevo; (4) Zimnitsa; (5) Straldza; (6) Atolovo; (7) Tonchova Barrow, Venets; (8) Golyamata mogila, Mogila; (9) barrow 2, Mogila; (10) barrow 3, Mogila; (11) Irechekovo; (12) Lozyanska Barrow, Boyanovo; (13) barrow 1 at Bailar Kairyak, Boyanovo; (14) barrow 3 at Bailar Kairyak, Boyanovo; (15) Golyamata Mogila Barrow, Popovo; (16) Golyamata Mogila Barrow, Malomirovo; (17) barrow 2, Malomirovo; 18. Pamukli Bair Barrow, Malomirovo; (19) Sechenata Mogila Barrow, Sinapovo. Image Credit: https://maps-for-free.com and the authors.*



Figure 3. *Photos of Pamukli Bair Barrow, Malomirovo, before the excavations. Image Credit: P. Włodarczak.*

The barrow itself – a segment of a sphere with a basal diameter of ca. 40 m and 3.5–4.0 m high – was completely excavated revealing features from the Early and Middle Bronze Ages and the Late Antiquity. The barrow was constructed during the EBA by piling up consecutive layers of ancient humus and weathered chalk rock. Three main stages of barrow formation were distinguished related to the successive enlargement of its dimensions. Eight EBA grave contexts were related to these stages. After the final enlargement of the barrow, two EBA graves, three MBA graves and a Late Antiquity grave were dug into the already existing barrow fill (figs. 4–6). All these features form a complex stratigraphic system. In a combination with the series of 19 radiocarbon dates obtained, they create an important chronological sequence for recognizing both mortuary practices and cultural changes at the end of the fourth and the first half of the third millennium BC in Upper Thrace.

The investigated features and their relative chronology

Construction & chronological phase 1 (features 18, 19, and 21).

The burial context that initiated the construction of the barrow (labeled as feature 19*)* was located in its central part. The grave-pit was dug into the original ground level to a depth of 0.75 m, cutting the rubble of the chalk rock. It was rectangular with clearly rounded corners and dimensions 1.60 by 1.30 m. There were no signs of covering the pit or its bottom. The deceased, 30–40 years old female, was laid at the bottom in an articulated semi-supine position to the right, with the arms bent at the elbows and with the palms towards the skull. The body was aligned northeast (head) – southwest, facing northwest. The skull and the upper part of the skeleton were postdepositionally damaged, possibly due to the 2005 looters' activities. No equipment or traces of red ocher were recorded in the grave (figs. 7 and 8). Above the grave-pit, dark humic soil was piled, thus forming the first barrow with a diameter of 14 m and approximately 1 m height (fig. 6).

Northeast of that barrow, a second small one was investigated (labeled as feature 18). In its center, an oval pit 1.91 by 1.37 m was dug at a depth of 1.12 m in the ancient humus level and the virgin soil. In its filling, starting from the upper part, numerous human skeletal remains mixed with large stone blocks were discovered. The bones belonged to a 25–35 years old male individual. A small silver bead and an antler tool were found at the bottom of the pit. It was surrounded by a circle with a diameter of 14–15 m made of small- and medium-sized rocks (figs. 9 and 10). Above it, a low, but quite extensive barrow was created of earth and numerous rocks.

Southeast of feature 18, a smaller oval feature 4.6 by 3.6 m was investigated that was made of small-sized rocks (labeled as feature 21). In the middle of the oval, a shallow grave-pit (about 20 cm below the rocks level) was uncovered. There were no signs of covering the pit or its bottom. At the bottom of the pit, the body of a male individual ca. 20 years old was laid in an articulated semi-supine position to the left aligned east (head) – west. A lump of red ocher was found near the left forearm (figs. 11 and 12).

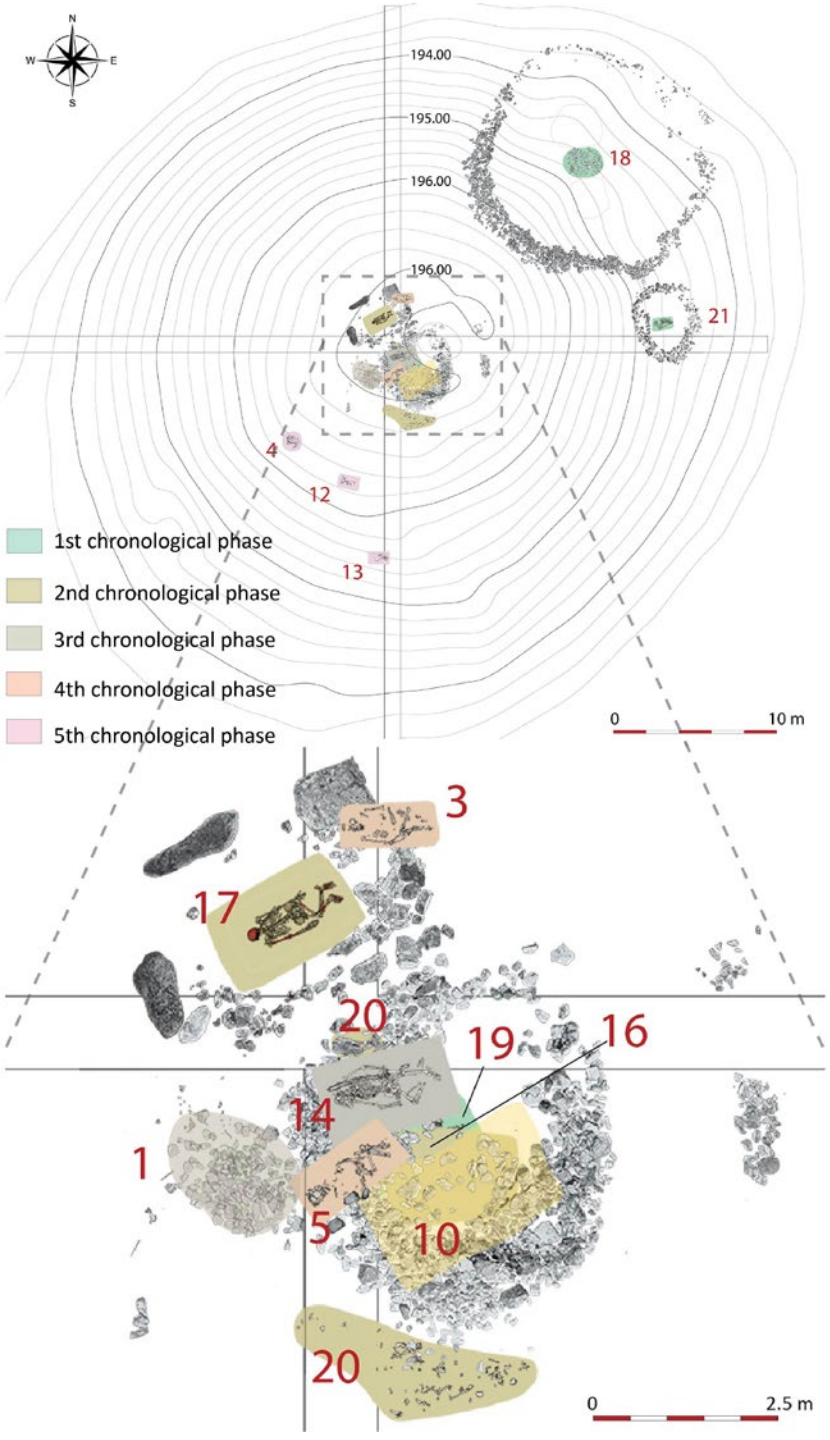


Figure 4. *Layout of investigated features at Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*

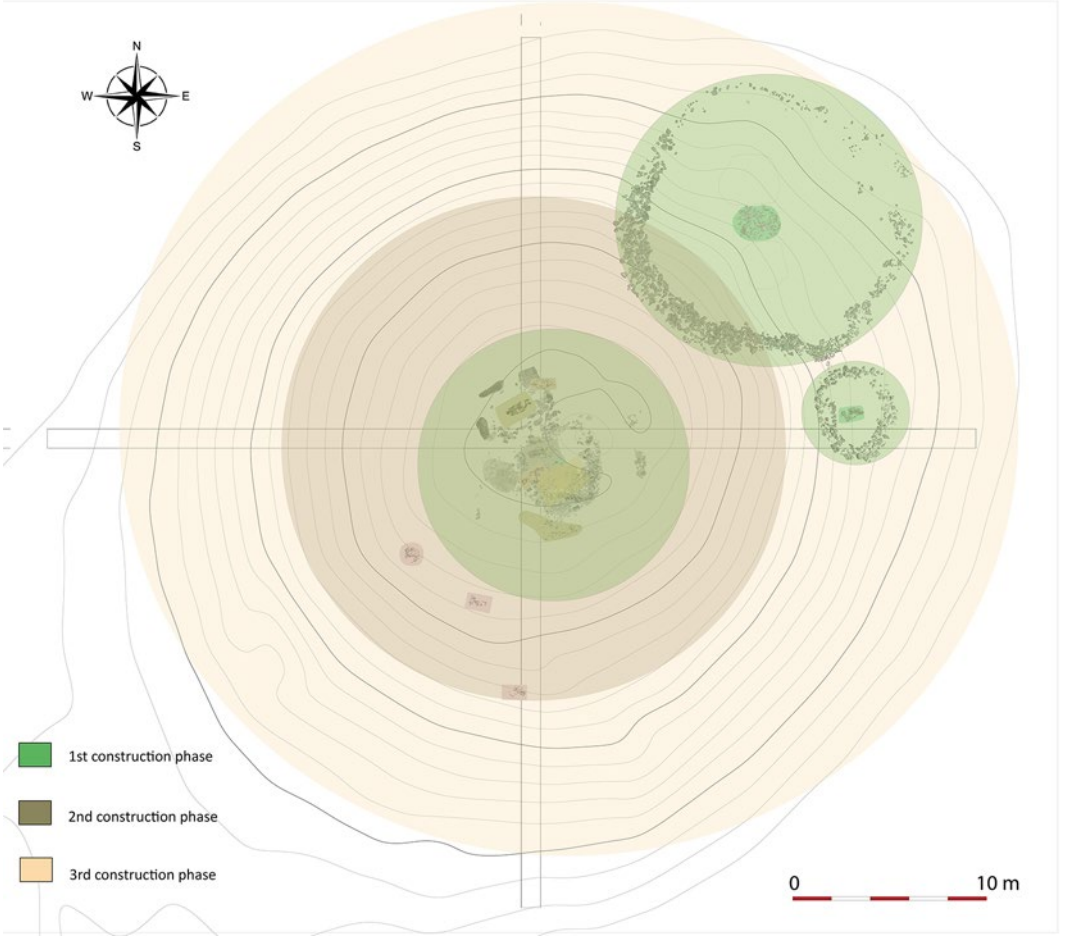


Figure 5. *Graphic representation of the barrow construction phases of the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*

It is difficult to establish a clear stratigraphic relation between the three graves. The location of the stone circles connected to features 18 and 21 at a similar level (ancient humus) indicates their possibly similar date. At the same time, both features were placed outside the small barrow piled above feature 19. It can be safely assumed that all these three mortuary complexes are related to construction phase 1, and represent an elaborate ceremonial funeral complex formed by three circular or oval zones associated with features 18, 19, and 21 (fig. 5).

Construction & chronological phase 2 (features 16, 17, and 20)

The next construction and chronological period in the barrow's history is related to another three features. The first one (labeled as feature 16) consisted of a grave-pit covered with west–east oriented wooden planks that was dug in the central part of the

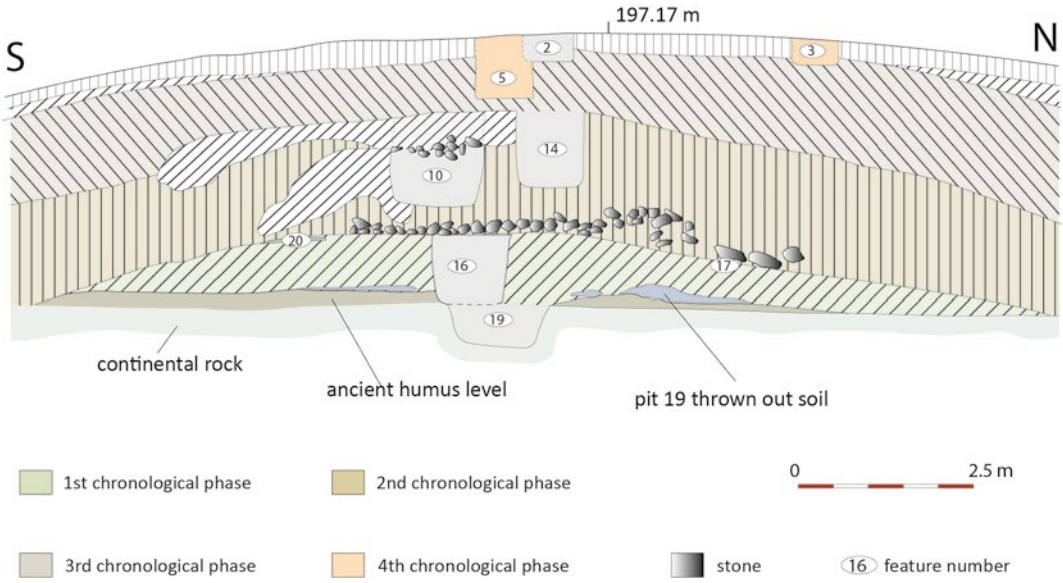


Figure 6. *Drawing of the central part of the north–south profile of Pamukli Bair Barrow, Malomirovo. View from the east. Image Credit: M. Podsiadło.*

barrow fill piled above the primary grave, and an oval-shaped stone feature constructed above it measuring 5.4 by 4.7 m and 0.7–0.8 m high. Both the grave-pit and the stone feature were badly truncated by a looters' trench (labeled as feature 11). Moreover, another rectangular looters' trench was excavated in the western part of feature 16 measuring 2.65 x 1.65 m (labeled as feature no. 10). Those illegal activities destroyed the northern part of the stone structure as well as the grave itself. The two golden hair-rings mentioned above were also found there. In 2021, human bones were found at the bottom of the grave-pit and in its upper layers that could not be reliably associated with specific burial (figs. 13 and 14).

Between the rocks of feature 16 as well as in its immediate vicinity, human bones were discovered belonging to at least three individuals aged 20–35 years. The skeletal remains were incomplete and disarticulated. These agglomerations of scattered bones were labeled as feature 20. They were, most likely, related to the construction of feature 16 (figs. 13, 15, and 16). In our opinion, the human bones in feature 10 could alternatively be connected to features 16 and 20. This assumption seems to be confirmed by the radiocarbon dates presented below.

North of feature 16, feature 17 was discovered. Its rectangular grave-pit was dug into the first barrow fill, the ancient humus level and the continental rock. From the south, the grave-pit edge was marked by a cluster of rocks, some of them related to the stone feature 16. Three stone stelae surrounded the pit from the east, north and west, the

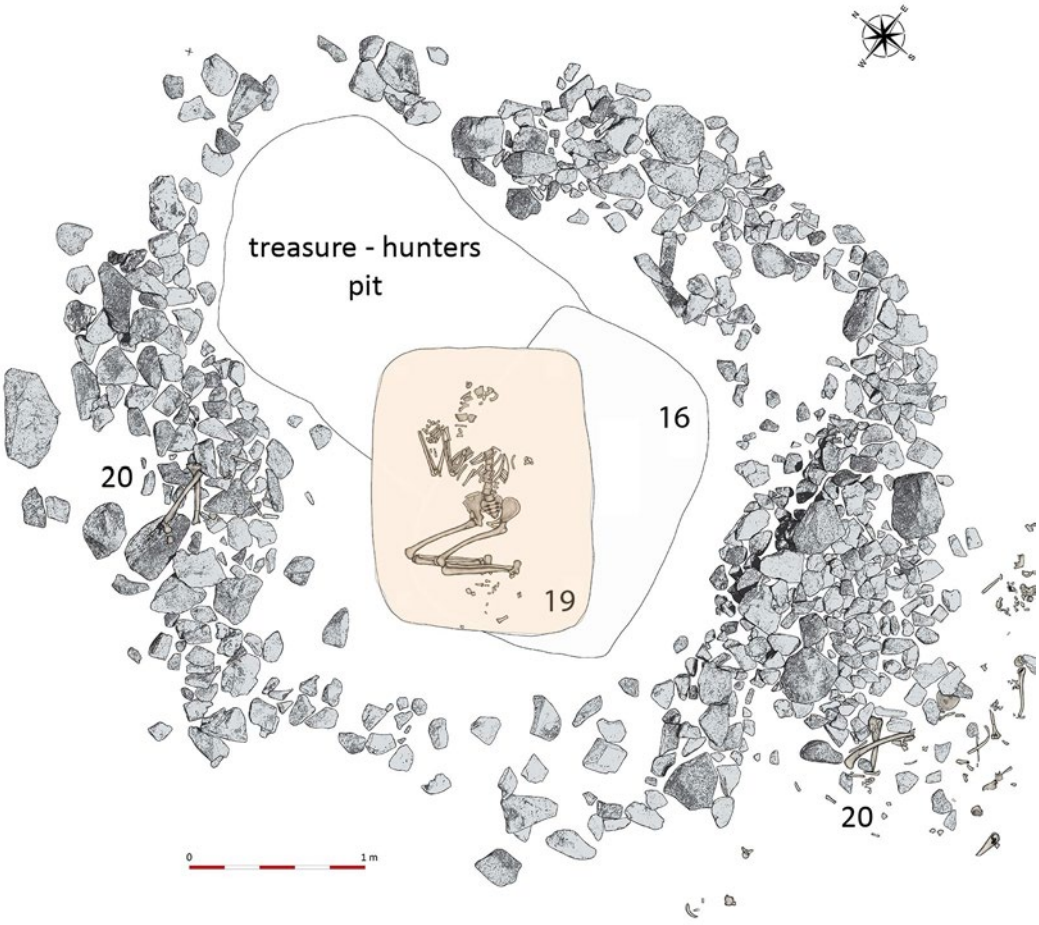


Figure 7. *Drawing of feature 19 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*

pit itself being covered with wooden planks. At its bottom, a skeleton of a male individual about 70 years old was uncovered in a supine position with flexed legs and head oriented to the west (figs. 17 and 18). Two silver hair-rings were found in the grave, one each on both sides of the skull. The skull and some postcranial elements were intensively colored with red ocher.

The construction levels of the two graves discussed were generally the same, both pits being dug from the upper level of the first barrow fill piled above feature 19. It can therefore be assumed that features 16, 17, and 20 were built before the significant enlargement of the barrow in the second phase of its construction. This enlargement included piling a second barrow fill above the three discussed features, with a diameter of ca. 25 m that also increased the height of the barrow to 2.5 m (figs. 5 and 6).



Figure 8. *Photo of feature 19 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

Construction & chronological phase 3 (features 1 and 14)

Two features are related to this phase. Feature 14 was located in the central part of the barrow, above the stone feature 16. The upper part of its grave pit was hard to distinguish. However, we could establish that its bottom and lower parts of the walls were boarded longitudinally with wooden planks. The buried person, a 15–18 years old male individual, lay in a supine position with flexed legs on the wooden planks oriented west (head) – east. The deceased held in his palm an unspecified long wooden object that was placed near his left arm. Lumps of bright red ocher were clumped around the skull (figs. 19 and 20).

The other feature (No. 1) related to this phase was a stone pavement with human bones scattered around it (figs. 21 and 22). It was located at a depth of about 1 m be-

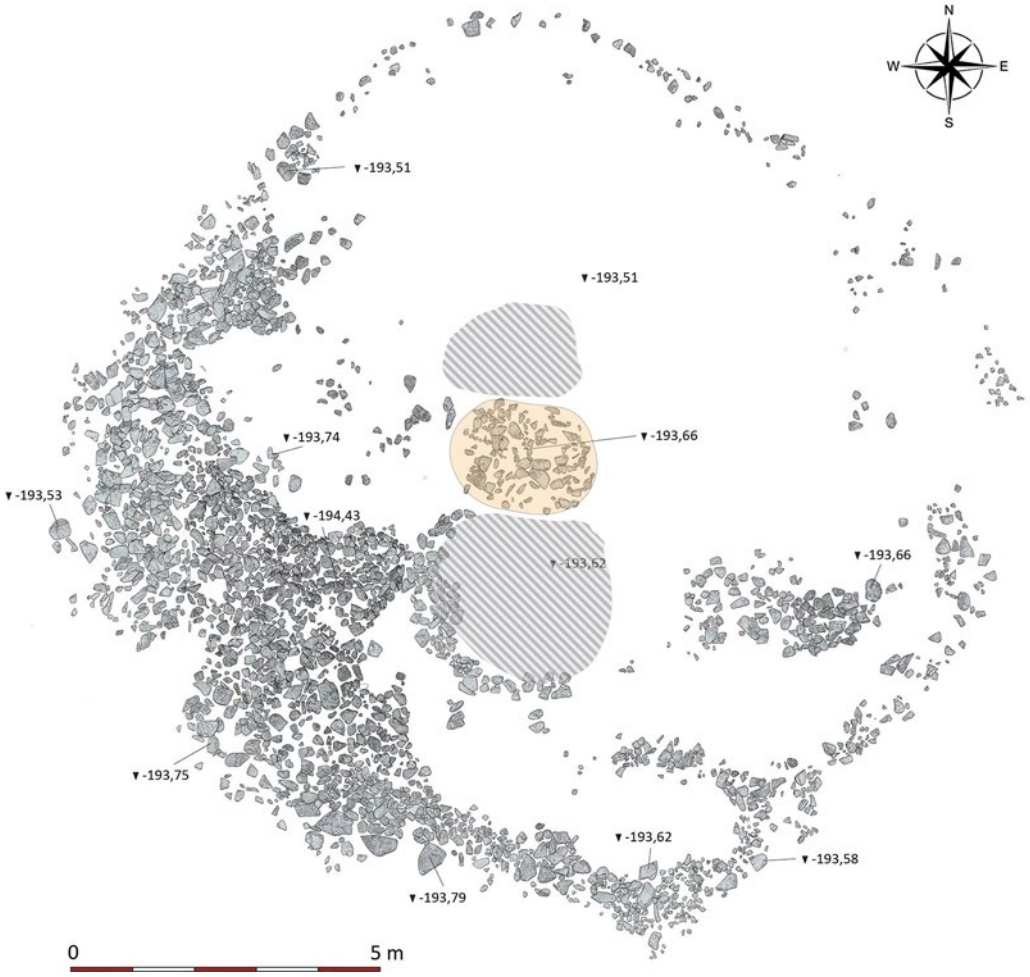


Figure 9. *Drawing of feature 18 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*

low the top of the barrow and about 1 m above the bottom of feature 14. That places it more or less at the level where the top of the grave-pit of feature 14 should had been. Stratigraphically, it is also quite clear that feature 1 was constructed before the enlargement of the barrow. The relationship between features 1 and 14 would thus be similar to the scattered human bones (feature 20) around the grave-pit of feature 16 in the second chronological phase.

These two features were related to the last phase of the barrow construction. This last enlargement included piling a third barrow fill above feature 14 and the adjacent stone pavement with human remains, with a diameter of approximately 45 m that increased the height of the barrow to 3.9 m.



Figure 10. *Photo of feature 18 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

Chronological phase 4 (features 3 and 5)

Two graves (features 3 and 5) were dug in the central part of the barrow fill without additional piling. Due to their shallow depth, the outlines of the grave-pits could not be identified. The small thickness of the fills also indicates that the mound was slightly leveled (due to erosion?). Perhaps this could also be the reason why no remains of wooden covering were found in these features. The arrangement of the skeletal remains in both cases indicated their decomposition in an empty space, which in turn suggests the presence of a chamber roof. Both deceased lay in an articulated supine position with flexed legs, arms alongside the body, slightly bent at the elbows, with palms at the abdominal/pelvic area. In feature 5, faint traces of red ocher staining were recorded. No other grave inventory was found in both graves (figs. 23–26).

Chronological phase 5 (features 4, 12, and 13)

Three more graves were discovered in the southwest part of the barrow (labeled as features 4, 12, and 13). The deceased were buried in simple shallow pits in contracted position: on the side (feature 4) or on the back (features 12 and 13). The skeletons were not stained with red ocher. No equipment was discovered (fig. 4).

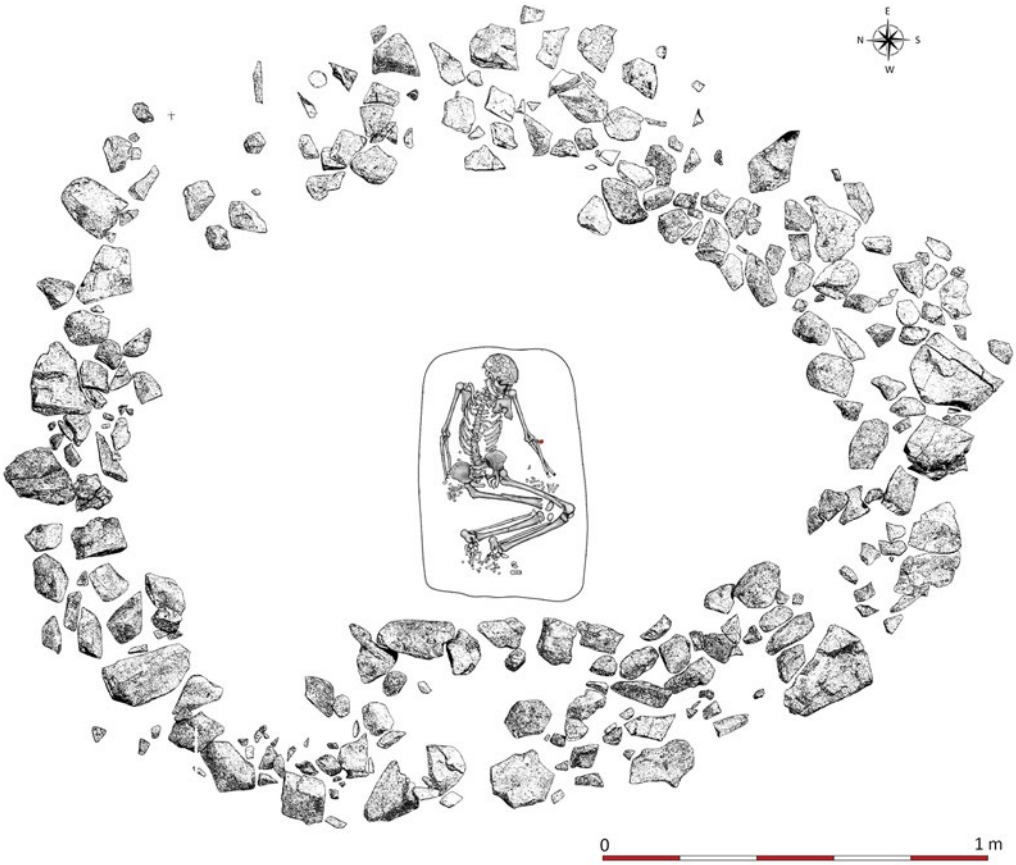


Figure 11. *Drawing of feature 21 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*

Chronological phase 6 (feature 2)

Last in the chronological sequence of the graves in the Pamukli Bair Barrow at Malomirovo was feature 2, an articulated inhumation in a shallow pit located in the central part of the barrow (fig. 4). An iron buckle was found in the abdominal area.

As mentioned above, according to some formal criteria such as grave facility and its equipment, body position and treatment, grave inventory, etc., the graves from the first four chronological phases could be dated to the EBA; the three graves from the fifth phase, to the MBA; and feature 2, to the Late Antiquity. Their general characteristics will be discussed in detail below.

Absolute chronology of the Malomirovo graves

A long series of 19 radiocarbon dates was obtained for the burials from the Pamukli Bair Barrow at Malomirovo. All measurements have been made in Poznań Radiocarbon



Figure 12. *Photo of feature 21 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

Laboratory on human bone samples. To calibrate the results, the 2021 version of OxCal v4.4.4 program of C. Bronk Ramsey was used applying the IntCal20 calibration curve (Reimer et al. 2020).[1] The calendar age of individual samples is presented in table 1.[2] The BA features, according to the Bayesian method, were confronted with the sequence of the five chronological phases presented above in order to build a model with a higher precision of dating. This procedure is of little importance for phase 5 dating as its features are separated from the others by a long chronological hiatus. However, the effects obtained for phases 1–4 are interesting. The model of the five specified phases (fig. 27) was created using the PHASE function of the OxCal program.

[1] The calibrated dates discussed below are presented in 68.2% confidence level.

[2] Feature 2, dated to the Late Antiquity, was excluded from further analysis.

Feature no.	Relative chronology	Lab code	Age BP	Calendar age (68.2%)	Sample features
1	EBA	Poz-150129	4170 ± 35	2877–2677 BC	4,3%N, 16,4%C, 7.2%coll
2	Antiquity	Poz-141995	1605 ± 30	421–535 AD	0.9%N 6.0%C, 3.9%coll
3	EBA	Poz-141943	4080 ± 30	2836–2504 BC	0.6%N 6.3%C, 1.2%coll
4	MBA	Poz-141949	3365 ± 30	1733–1614 BC	0.9%N 7.1%C, 4.4%coll
5	EBA	Poz-141948	4115 ± 30	2850–2587 BC	0.7%N 5.6%C, 4.7%coll
10	EBA	Poz-141996	4290 ± 35	2920–2884 BC	1.9%N 9.5%C, 7.2%coll
10	EBA	Poz-141998	4260 ± 35	2912–2875 BC	2.5%N 11.5%C, 7.6%coll
12	MBA	Poz-141992	3365 ± 35	1736–1566 BC	1.1%N 7.3%C, 5.3%coll
13	MBA	Poz-141993	3410 ± 35	1744–1632 BC	1.6%N 8.2%C, 3.9%coll
14	EBA	Poz-141950	4105 ± 30	2846–2582 BC	0.6%C 5.2%C, 5.5%coll
16	EBA	Poz-141956	4465 ± 35	3328–3033 BC	0.7%N 5.2%C, 5.4%coll
16	EBA	Poz-150130	4300 ± 35	3002–2885 BC	2.3%N, 7.4%C, 6.2%coll
17	EBA	Poz-141946	4315 ± 35	3008–2890 BC	2.4%N 10.9%C, 8.3%coll
18	EBA	Poz-141953	4390 ± 40	3092–2923 BC	0.9%N 6.4%C, 2.3%coll
18	EBA	Poz-141997	4365 ± 35	3013–2918 BC	0.6%N 4.8%C, 4%coll
19	EBA	Poz-141947	4440 ± 35	3321–3016 BC	2.7%N 10.2%C, 9.5%coll
20	EBA	Poz-141954	4270 ± 35	2911–2881 BC	1.2%N 6.7%C, 5.7%coll
20	EBA	Poz-141999	4310 ± 35	3007–2887 BC	1.4%N 6.8%C, 5.1%coll
21	EBA	Poz-141952	4395 ± 30	3081–2928 BC	0.6%N 5.9%C, 2.8%coll

Table 1. *List of ^{14}C dates from the Pamukli Bair Barrow at Malomirovo.*

Phase 1, related to features 18, 19, and 21, and to the first barrow fill/s, falls into the 3104–2922 cal. BC range. Feature 19 was also dated by Pos-141956 sample obtained from a bone found in the lower part of feature 16. Most probably, the bone in discussion had been re-deposited during modern looters' activities. In the model presented, a similar age for the construction of the three phase 1 features was assumed. However, considering the fact that feature 19 was the first one to be constructed, it is possible to shift its dating to a slightly older range (3321–3016 cal. BC).

Phase 2, which includes features 16, 17, and 20, as well as the human skeletal remains from feature 10, dates to the 2911–2892 cal. BC range. The enlargement of the barrow related to piling additional barrow fill should also be dated to this period. The precisely defined range for this period (less than 20 years) is noteworthy.

Phase 3 associated with features 1 and 14, and, most likely, with the construction of the latest barrow fill as well, dates to 2881–2808 cal. BC.

Phase 4, related to features 3 and 5, dug into the latest embankment of the barrow, dates to the 2681–2506 cal. BC range.

Latest in the BA sequence are the three features from the southeast sector of the barrow (4, 12, and 13) dating back to 1736–1623 cal. BC or Middle Bronze Age.

This model is not the only possibility of interpreting the sequence from the excavated barrow. Despite the already mentioned possible interpretations of the position of feature 19, it could also be assumed that features 1, 3, 5, and 14 (i.e., all four latest EBA contexts) belonged to a period close to each other. In such a case, features that differ significantly in terms of the funerary rituals would be placed in one phase, and the compatibility of the dating results would be clearly smaller. It should be emphasized that with each attempt to model the chronology of EBA features, one cannot assume a generational continuity between the distinguished phases. The analyzed place of ceremonial funeral activity is therefore the sum of several independent episodes, clearly separated in time (table 2).

Phase	Phase of barrow construction	Graves	General chronology	Cultural characteristic	Calculated age BC
5		4, 12, 113	MBA		1736–1623
4		3, 5	EBA	Late PGC	2681–2506
3	III	1, 14	EBA	Early PGC (late stage)	2881–2808
2	II	16, 17, 20	EBA	Early PGC	2911–2892
1	I	18, 19, 21	EBA	'Pre-Yamna'	3104–2922

Table 2. *Dating of distinguished phases of the Pamukli Bair Barrow at Malomirovo.*

The Pamukli Bair Barrow at Malomirovo, the EBA barrow graves in Upper Thrace, and the Pit-Grave Culture impact

During the last two decades, the mortuary practices of the PGC were defined in detail for the regions of the North Pontic steppe and Southeast Europe. Their specific characteristics and, in particular, those of the earlier phase of this culture were elucidated (Heyd 2011; Rassamakin 2013a; Kaiser 2019). They include the original construction of the grave, the position of the body and the use of red ocher and typical elements of the equipment. Compared to the greater variety of features of the barrow rituals in the fourth millennium BC (Rassamakin 2013a), a later unification of the mortuary practices was also emphasized. In the vast areas of the western part of the Eurasian steppe, at the turn of the fourth and third millennium BC, a unified type of inhumation appeared. The deceased was buried in a rectangular chamber covered with wooden roof. The body was laid on an organic mat in a supine position with vertically flexed legs and the arms alongside the body oriented west (head) – east. The use of red dye in the burial (most often, ocher) played an important role in the ritual as well. Barrow graves with such characteristics have been found in all regions of the west part of the PGC complex, including present-day north and southeast Bulgaria.

Another issue recently discussed is the homogeneity of the PGC funerary rituals

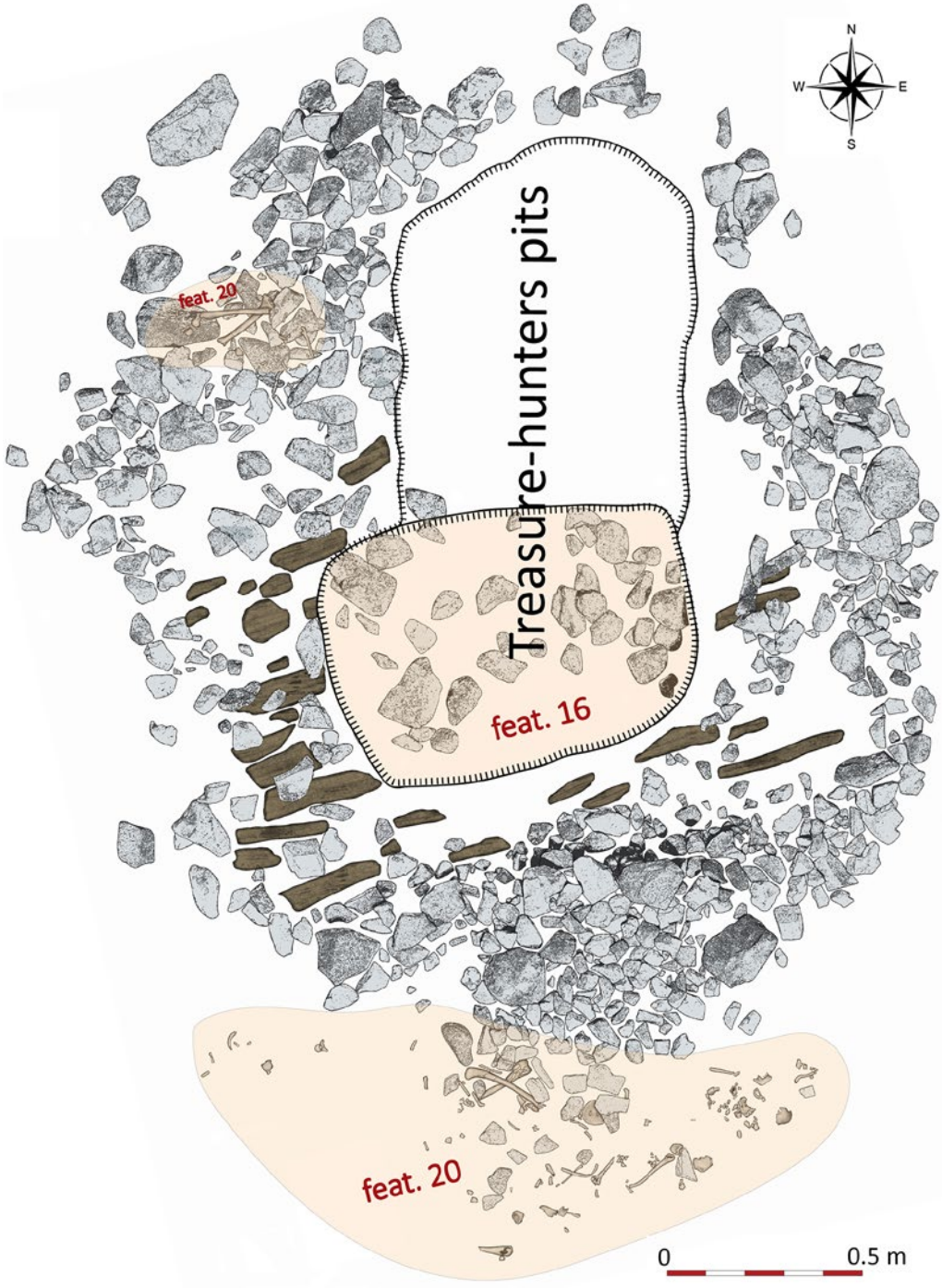


Figure 13. *Drawing of features 16 and 20 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*



Figure 14. Photo of feature 16 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.

itself. Some PGC graves showed a deviation from the main rituals such as lack of red ocher or different position of the body. Such deviation from the supra-regional scheme may have resulted from both the impact of local traditions and the overlapping of the PGC trend with the above described older funerary customs. The latter phenomenon was argued for the PGC in the Northwest Black Sea zone (Ivanova 2015).

The thorough investigation of the fourth–third millennium BC mortuary practices drew attention to the presence of other types of barrow graves in both North Pontic and Balkan regions. Some new discoveries made it possible to distinguish groups of graves with characteristics different from the patterns described above. First, extended inhumations were identified there (Manzura 2010; Alexandrov 2010; Frînculeasa et al. 2017a; Włodarczak 2020), usually related to the post-Mariupol tradition, and in the recent years more often referred to as the Kvityana Culture pattern (Ivanova 2015; Frînculeasa et al. 2017a). In the North Balkans, a chronological horizon of individual inhumation graves in a crouched position on the side or in a semi-supine position, with the arms in front of the head was also distinguished and dated to 3300–3100 cal. BC (Frînculeasa et al. 2019; Alexandrov, in print). Such graves show patterns known from the mortuary practices of



Figure 15. *Photo of feature 20 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*



Figure 16. *Photo of feature 20 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*



Figure 17. *Drawing of feature 17 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*



Figure 18. *Photo of feature 17 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

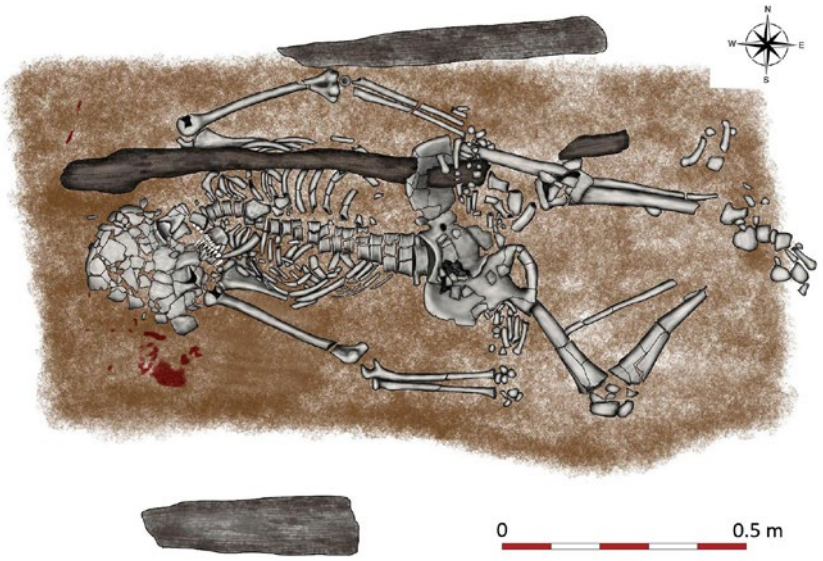


Figure 19. *Drawing of feature 14 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*



Figure 20. *Photo of feature 14 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

the Zhivotilovka–Volchansk group as well as from the late groups of the Trypillia culture (e.g., Usatovo or Gordineşti). In Muntenia, a specific group of multiple graves, often richly equipped, was also distinguished and dated back to the second half of the fourth millennium BC (Frînculeasa et al. 2019). Such graves have been discovered in the Tundzha area as well, e.g., at Gabrova Mogila near Kamen (Dimitrova 2014) or at the Sabev Bair Barrow near Drazhevo (Iliev & Bakărdžiev 2020).

So, where is the place of the Pamukli Bair Barrow at Malomirovo in the general picture described above and how it could contribute to the better understanding of the EBA mortuary practices in Upper Thrace? Since the 1980s (Panayotov & Dergačov 1984; Panayotov 1989), the problems of the cultural affiliation of the EBA barrow graves in Southeast Bulgaria were largely discussed. In some earlier analyses, all the EBA barrow graves from the area have been related to the PGC (cf. Nikolova 2000, for Sazliyka River area; cf. Iliev 2011, for the Tundzha River area). Recently, some more nuanced investigations were published, with an attempt to distinguish spatial/chronological patterns in the EBA barrow graves from the region and relate some of them to a migration of Pit-Grave population from the north (Alexandrov 2020), or to connect their appearance to a common, fourth–third millennium BC cultural and religious horizon (Leshtakov 2011). Considering all this as well as the rapid increase of the number of the EBA barrow graves investigated in Upper Thrace, we believe that the Pamukli Bair Barrow could contribute to a much better understanding of the problems discussed.

At first, we shall consider the nature of the graves in the Pamukli Bair Barrow chronological phase 2. Since feature 16 was severely damaged in modern days, the main attention will be paid to feature 17, a spectacular burial of an adult or senior male individual that shows the following characteristics of the mortuary practices:

– regular rectangular chamber covered with wooden planks (with longitudinal arrangement of boards);

– rectangular mat made of organic material on which the body of the deceased was laid;

– articulated inhumation of a male individual in a supine position with flexed legs, arms alongside the body; head to the west;

– use of red ocher in the ritual (with a specific strong coloration of the upper part of the skull);

– presence of silver hair-rings;

– presence of stone stelae at the top of the chamber.

As discussed earlier, all these characteristics represent the whole set of features characteristic for what is considered to be the early chronological stage of the PGC (Dergacev 1986; Frînculeasa et al. 2017a; Kaiser 2019) or has been defined as 'Yamnaya package' (Harrison & Heyd 2007; Heyd 2011). In addition, based on the detailed osteological analyses by Dr. Martin Trautmann, the anatomical characteristics of the individual from feature 17 could be recognized as distinctive for a representative population of Eastern

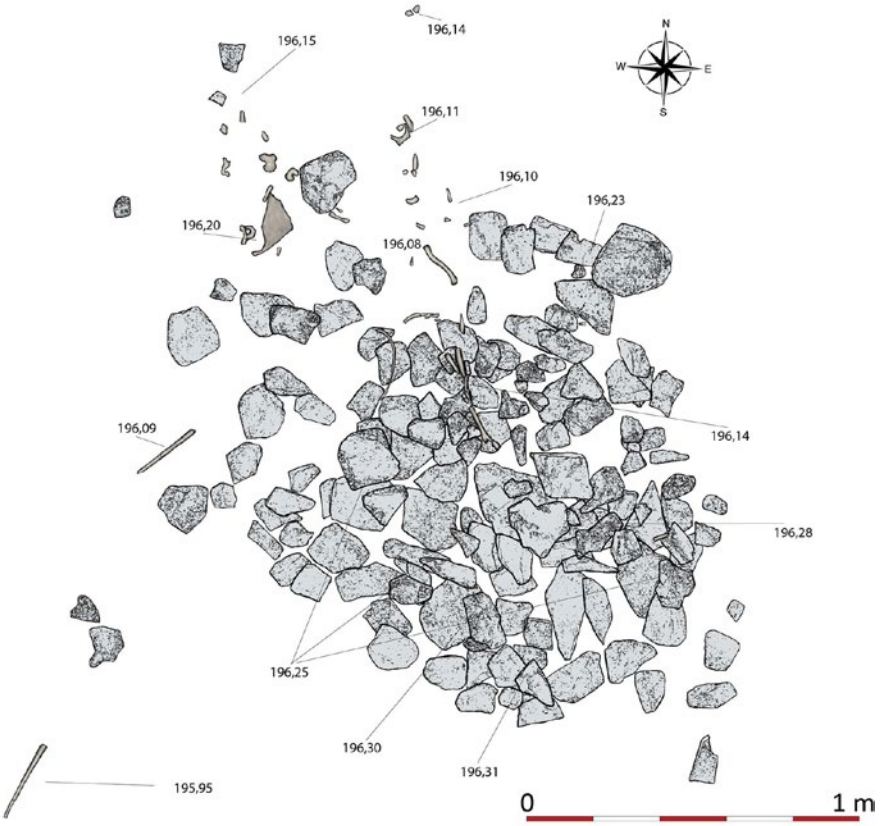


Figure 21. *Drawing of feature 1 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*



Figure 22. *Photo of feature 1 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

European steppe origin, appearing in Southeast Europe around 3100/3000 BC.

Similar graves are also known from other sites in the central Tundzha area, e.g., graves 24 and 29 in barrow 1 at Mogila (Iliev & Bakărdžiev 2020, Taf. 6.1–3, 9.5 and 6), Zimnitsa (Alexandrov & Iliev 2010), Straldza (Alexandrov & Iliev 2016), and Gabrova Mogila near Kamen (Dimitrova 2014, 72, obr. 4.4). A particular element of the structural characteristics of the early PGC graves from the Tundzha area are the stone wreaths surrounding the burial chambers accompanying the wooden roof, as in the case of features 16 and 17 in the Pamukli Bair Barrow at Malomirovo. Features of a similar type are known from Baylar Kayryak at Boyanovo, barrow 1, graves 13, 17, and 19/20 (Iliev & Bakărdžiev 2020, 114, 117, 118), or from Golyam Kayryak, barrow 1, graves 24 and 29 (Iliev & Bakărdžiev 2020, 81, 84). The burial mounds at Boyanovo and Mogila discussed here are similar to the Pamukli Bair Barrow in other aspects as well: the presence of secondary structures in the form of scattered incomplete human remains near the early PGC graves, such as features 1 and 20 at Malomirovo, feature 26 at Mogila, and feature 21 at Boyanovo.

The grave facilities of features 16 and 17 at the Pamukli Bair Barrow were constructed into- and on the upper part of the earlier barrow piled above feature 19. The use of an already existing barrow for the construction of PGC grave facilities is to be found at several more sites in the central Tundzha region as well. In the study area, examples of such stratigraphic sequence come from the above-mentioned barrows at Boyanovo and Mogila, as well as from Lozianska Mogila near Boyanovo (Agre 2015), Gabrova Mogila near Kamen (Dimitrova 2014), Golyamata Mogila near Popovo (Arpe 2007), and probably Sechenata Mogila near Sinapovo (Agre & Dichev 2013). Usually, the construction of these PGC graves was connected to a significant enlargement of the size of the original barrow. In the case of Malomirovo, this enlargement happened in two stages. The first one was related to a barrow fill piled above features 16, 17, and 20. The grave-pit of feature 14 was dug in that fill, and the last barrow fill was built up above it, the barrow thus reaching its final size with dimensions about 3.5 times larger than the original barrow constructed above feature 19. Feature 14 itself demonstrates more or less elements of the mortuary practices characteristic for the early PGC burials, and hence should probably be related chronologically to the end of this period.

In the middle Tundzha area, several barrows were, most probably, built in a similar way, such as Lozianska Mogila at Boyanovo (Agre 2015, 4F, fig. 3), barrow 1 in the Golemiya Kayryak locality near Mogila (Iliev & Bakărdžiev 2020, Taf. 1.1) and Sekerdzha Mogila near Kamen (Dimitrova 2014, 76, obr. 8). Such a phased build-up of the barrow, combined with the successively dug-in burials of the early PGC, is a custom known in both the North Pontic area and the Danube zone. Here, we will only present two examples: Smeeni "Movila mare" in the Lower Danube region (Frînculeasa et al. 2017b) and the Török-halom Barrow at Kétegyháza in the Pannonian Plain (Ecsedy 1979, 24, fig. 14).

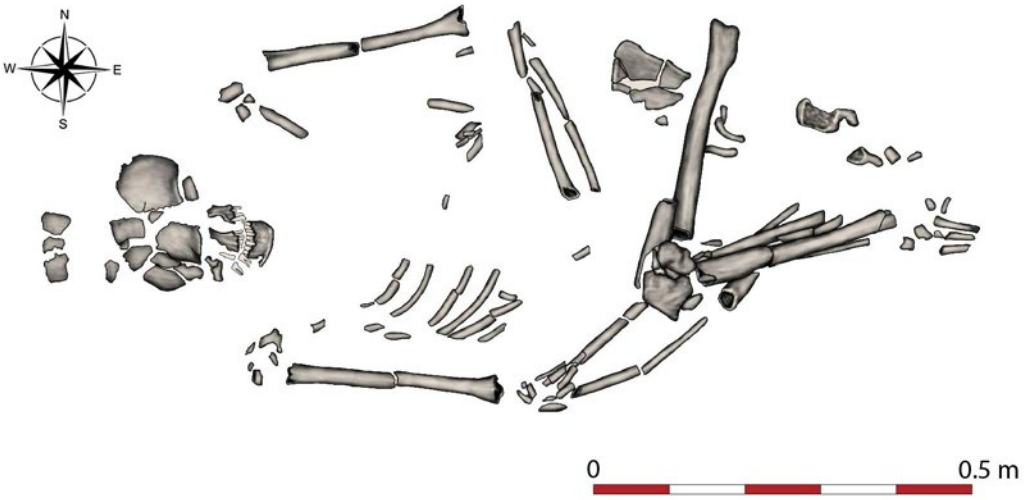


Figure 23. *Drawing of feature 3 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*



Figure 24. *Photo of feature 3 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

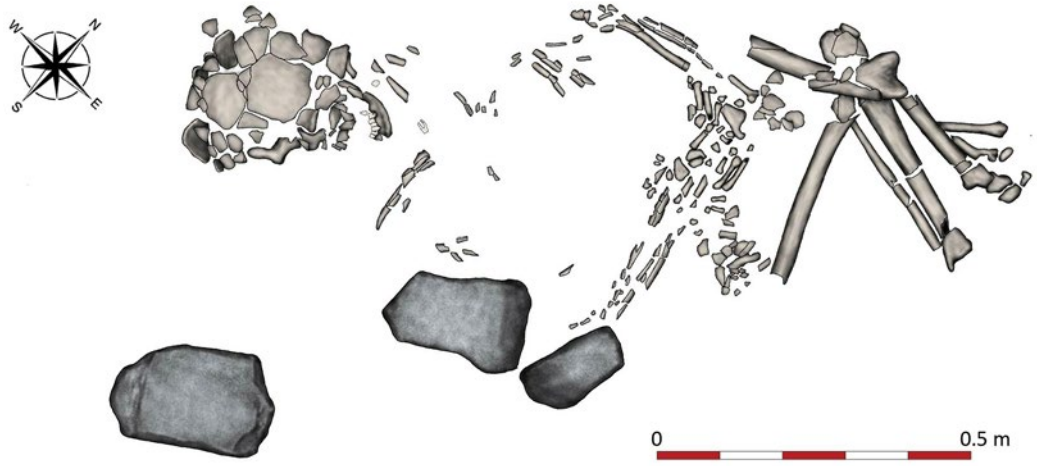


Figure 25. *Drawing of feature 5 at the Pamukli Bair Barrow, Malomirovo. Image Credit: M. Podsiadło.*



Figure 26. *Photo of feature 5 at the Pamukli Bair Barrow, Malomirovo. Image Credit: P. Włodarczak.*

The Malomirovo chronometric evidence indicates that the horizon of the early PGC burials described above dates to the beginning of the third millennium BC. However, one cannot be certain whether this determination should be considered valid for the entire middle Tundzha area and, in a larger scale, for Upper Thrace. Considering that only a few radiocarbon dates from the region have been published so far, this question remains to be answered. However, a recently obtained ^{14}C date for the PGC grave 18 from barrow 1 at Boyanovo, Baylar Kayryak (Iliev & Bakărdžiev 2020, 117, Taf. 53.3 and 4) is slightly earlier than Malomirovo, feature 17, entering the 3099–2938 cal. BC range (95.4 % probability). A similar date (3089–2915 cal. BC, 95.4 % probability) was yielded by grave 4 from Kangalova Barrow at Troyanovo (some 40 km west of Malomirovo, in the Sazliyka River area).[1] Both graves revealed all the characteristics of the early PGC mortuary practices. On a supra-regional scale, this age is often indicated for the earlier PGC phase (cf. Preda-Bălănică et al. 2020, 87). If one recognizes the correctness of all this radiocarbon dating, then it should be assumed that around 3100–3000 BC, two types of rituals were contemporaneously performed: an early PGC and a second one of an earlier origin (in the type of graves of phase 1 from Malomirovo).

The phase 1 graves at Malomirovo, dated at the turn between the fourth and third millennium BC, differ morphologically from the 'classic' burials of the early PGC listed above. The bodies of the deceased from features 19 and 21 were arranged in a different way, with their heads in the eastern sector. This orientation is also known from other barrow graves in Southeast Bulgaria, usually associated with the earliest phase of the respective barrow construction. In the central Tundzha region, such primary graves are known from several barrows as follows: Bailar Kayryak at Boyanovo, barrow 1, grave 19/20 (Iliev & Bakărdžiev 2020, 178, Taf. 54.2–4); Lozianska Mogila at Boyanovo, grave 21 (Agre 2015, 30, fig. 42); Sabev Bair at Drazevo, inhumation graves 1 and 2 (Iliev & Bakărdžiev 2020, 90ff); Golemiya Kayryak at Mogila, barrow 1, grave 30 (Iliev & Bakărdžiev 2020, 134, Taf. 10.3–4), and Sechenata Mogila at Sinapovo, grave 6 (Agre & Dichev 2013). Apart from the body orientation and position, these graves are characterized by the complete absence or only a symbolic presence of red ocher (as in feature 21 at Malomirovo).

The listed features mark a particular horizon of barrow graves, often earlier than PGC ones. The first Bayesian model of Malomirovo, phase 1 presented here could indicate that in the Middle Tundzha region, such burials date back to the turn between the fourth and third millennium BC. Similar date provided grave 6 at Merichleri,[2] located further west in the Maritsa River Valley as well: 4340±30 BP, 3072–2895 cal. BC (Iliev 2018; Mathieson et al. 2018, suppl. table 1; Minkov 2021, fig. 3).

[1] An unpublished radiocarbon date. Excavations directed by S. Alexandrov and I. Kirov in 2015 (Alexandrov & Kirov 2016).

2 The grave in discussion – an articulated semi-supine inhumation with the head to the east – is earlier than two supine inhumations with flexed legs and head to the west typical for the PGC (Iliev 2018; Minkov 2021, fig. 3).

However, an older date was obtained for the multiple grave 30 in Gabrova Mogila at Kamen: LTL16866A: 4463 ± 45 BP, 3330–3029 cal. BC (Modi et al. 2019, table 1). Similar dates come from barrow graves in the Sazliyka River area as well, e.g., Mednikarovo, barrow 4, grave 1; Beli bryag, barrow 5, grave 2/2; and Ovchartsi, barrow 2, grave 1 (Alexandrov 2020, table 2). All they were primary graves with articulated inhumations in a semi-supine position, with the head oriented to the east (Panayotov & Alexandrov 1995, fig. 13; Alexandrov 2020, fig. 7.1; Alexandrov et al. 2016, fig. 2.2). An interesting fact is that silver beads similar to the one from Malomirovo, feature 18, were found in a Mednikarovo grave as well (Panayotov & Alexandrov 1995, fig. 14). All they mark the earliest so far radiocarbon-dated horizon of barrow graves in Upper Thrace. As mentioned above, according to the first Bayesian model, Malomirovo phase 1 graves should be later than this horizon. If we accept the second possibility for the chronological model, feature 19 – the primary grave – could enter this earlier barrow group, thus enlarging its spread further east, into the Tundzha area as well.

In our opinion, the combination of stratigraphic evidence and numerous radiocarbon dates from Malomirovo makes it a good starting point for further chronological and morphological studies. Although not all the EBA grave-types in Upper Thrace are presented there, the Pamukli Bair Barrow clearly indicates that at the turn of the fourth and third millennium BC, the mortuary practices were

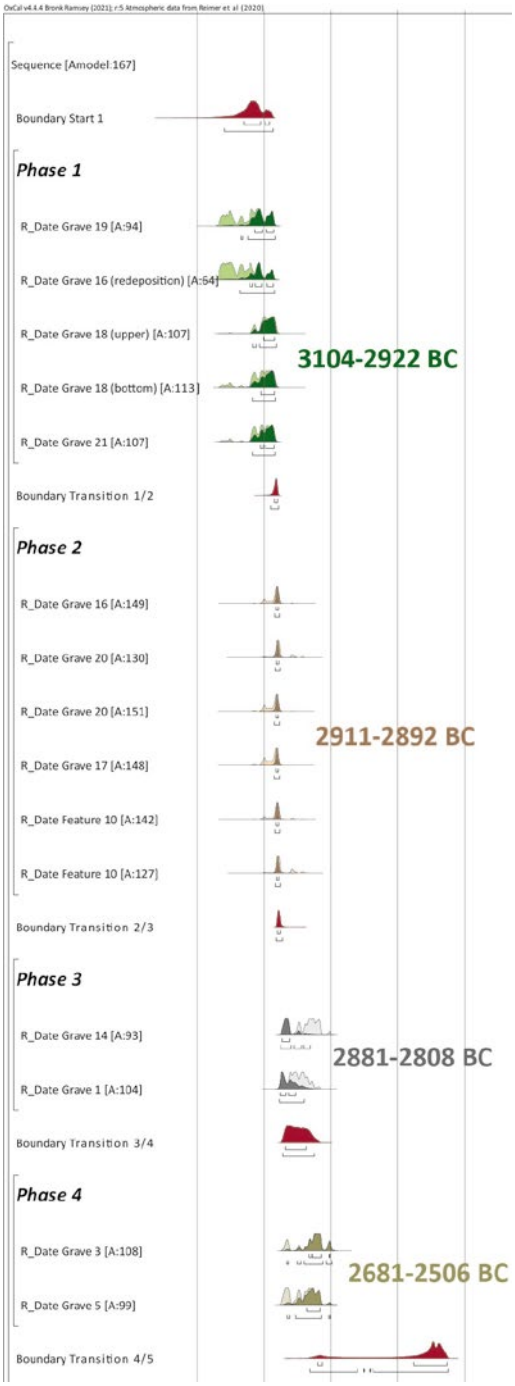


Figure 27. *Bayesian model of the 14C dates from Pamukli Bair Barrow, Malomirovo based on 68.2% confidence range. Image Credit: P. Włodarczak.*

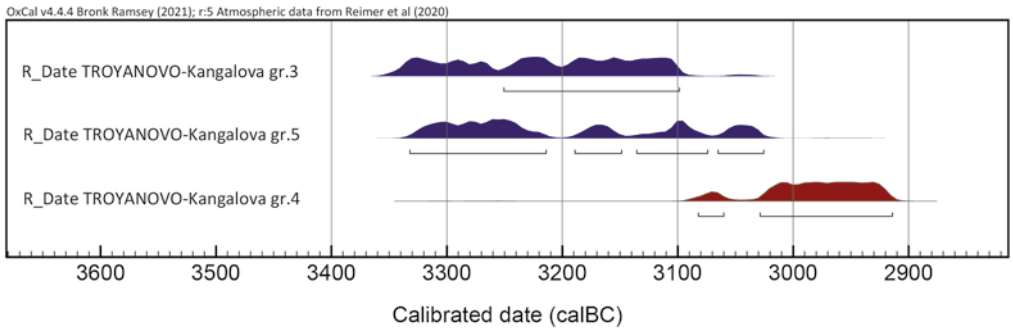


Figure 28. *Chronological sequence of graves 3–5 in the Kangalova Barrow at Troyanovo. Image Credit: S. Alexandrov.*

multi-faceted. The value of the Malomirovo sequence will become even greater with the possibility of comparing it to series from other EBA barrows in Upper Thrace and the Lower Danube.

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