

The dynamics of settlement in the Early Bronze Age in south and southwestern Moravia

Dynamika osídlení ve starší době bronzové na jižní a jihozápadní Moravě

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KEYWORDS

Structure of settlement – spatial modelling – Early Bronze Age – Únětice culture – Věteřov group – south Moravia – southwestern Moravia

ABSTRACT

What level of complexity can we consider when reflecting on the Early Bronze Age? The first step in attempting to define this question could be the creation of a theoretical model based on the spatial data obtained so far about the two cultural groups that existed in this period and region. The model includes data from over 1,000 settlements, cemeteries, and hoards of the Únětice culture and the Věteřov group. All these pieces of evidence of earlier settlement are an essential part of the input data, and through them, we will explore possible arrangements within both macro and micro regions. Each find situation is assigned a weight according to predefined criteria. For the analysis, data available from archives, excavation reports, and scholarly publications are used. The outputs are processed in a GIS environment in the form of map outputs and compared with already published findings. The results of the study is a series of maps, working with assumed population densities. Based on it, we can test follow-up hypotheses using other types of archaeological data.

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1. Introduction

The level of complexity of societies is one of the frequently addressed questions in archaeology. It is very important in relation to the models and theories we create based on archaeological data. In prehistoric archaeology, we generally do not have the opportunity to work with written sources, which often help in later periods to understand society and its functioning. The aim of this article is to propose the potential model or possible form of social organisation in the Early Bronze Age (EBA), based on data from settlements, cemeteries, hoards, and individual finds. However, this is not the model itself; it serves only as a basis for further analyses, which are not the subject of this article, and with the help of which it will be tested or modified. It is clear that we will never work with fully objectivized data, as generally only a very small portion of what the generations before us built has survived from the past. Nevertheless, it has been possible to gather a relatively extensive database of more than 1,000 individual sites, with varying quality of preserved records and different quantities of discovered materials. The sites are mainly from southern and southwestern Moravia, with a small portion from the Bohemian-Moravian Highlands. Finally, I would like to express my gratitude to all the archaeologists who, over more than 140 years of diligent work, contributed not only to the acquisition of these but also all other archaeological data, thanks to which we can at least partially reconstruct our past. In terms of absolute dating of archaeological contexts for Moravia, the Early Bronze Age is generally framed by the years 2100/2000–1600/1550 BC, the Únětice culture (UC), whose origins are sought already at the end of the Eneolithic (PUC, 2300/2100–2000 BC), is dated between 2100/2000–1650 BC. The Věteřov group (VG) is generally dated between 1700/1650–1550 BC. The data provided here serve only as an initial orientation for the period under consideration and will be further discussed in the text.

2. Methodology

Based on the theory of E. Neustupný, who focused on the possibilities of defining the space that a single community could control (Neustupný ed. 1998), in combination with the results of long-term research on settlement development in the Benta Valley (Earle, Kristiansen eds. 2010), data on settlements, burial sites, and other activities of populations in the Early Bronze Age were chosen as input data. Due to the author's interest in two hillfort sites from the end of the Early Bronze Age, Budkovice and Blučina, the analysis focused on a region within 30–35 km of these two supposed centres. The distance was chosen based on C.S. Spencer's (2010) theory, which considers an approximately 30 km radius as an effectively manageable area without the need for a developed administrative apparatus. Both defined radii

partially overlap since the two sites are about 22 km apart in a straight line. Data on all types of recorded activities from this region, published in literature and sources available until the fall of 2023 (primarily in the journal *Přehledy výzkumů*), find reports from the archives of the Institute of Archaeology of the Czech Academy of Sciences, Brno, and the Institute for Archaeological Heritage Brno, were used.

In total 1,089 individual components were worked with, dated to the Proto-Únětice culture (25), Únětice culture (913), Věteřov group (90), and generally categorized into the Early Bronze Age (61). The data show a significant disproportion of components for specific cultures or groups. Proto-Únětice culture is represented only by graves components and a few settlements sites. The Únětice culture has all components represented (settlements, burial sites, depots). In the Věteřov group, there is a marked absence of grave units except for a few necropolises. It may be related to the different burial ritual. For this reason, very few of these finds may have survived. Burials from the end of the Early Bronze Age are commonly found in Slovakia or Hungary. The Únětice culture is not further subdivided into early/late, classical/post-classical, etc. In the process of preparing and working with the data, this subdivision was tested, but the resulting picture was highly fragmented and significantly unclear, as a large portion of the sets were only generally dated as Únětice culture. For this reason, it was decided to treat the sites dated to this culture as a whole, which will be taken into account in the resulting interpretations. During the work, it was also not possible, for heuristic reasons, to verify all the data with which the model works. It is not possible to rule out that certain portions of the dataset may have incorrect or imprecise datings, as recorded by the finders. When it was possible to at least roughly verify the provided dating based on illustrative or photographic documentation, this was done. During the process, several inaccurately dated sites were excluded, and some other sites (e.g. Bulhary near Břeclav) were more accurately dated and thus excluded. However, it is clear that it was not humanly possible to avoid a certain percentage of errors, which, however, certainly do not constitute a significant portion of the data. For the largest and often well-published sites, the degree of certainty regarding their dating is very high. Although radiocarbon dating, which has seen significant improvements in methodology and affordability in recent decades, often brings surprising findings and shifts our understanding in unexpected directions, we can, in general terms, work with the obtained data, which align with the current state of knowledge.

The collected data were recorded in a database (MS Access). Attention was focused on formal data such as: site and find context, type of find, quantity of features or graves, and characteristics of the finds, etc. A very important part and outcome of the work is the effort to record as many precise coordinates of individual finds as possible. These data were obtained from published materials and original reports, if maps were attached. If only a verbal description remained, probable routes or locations of the finds were sought using various map-based sources or information from local witnesses. In cases where only the origin of certain artefacts from a given cadastral area was preserved, a point was taken from the centre of that cadastral area. Individual sites were assigned values: 1 (exact location known), 2 (location known within 100 meters), 3 (location known to the site or section of the cadastral area), and 4 (only known that the find is from a given cadastral area). For the creation of the spatial model, all these records were used, as, at the scale of tens of kilometers, any distortion in settlement density is very marginal. The obtained coordinates are also a valuable data source

for further partial or comprehensive work. They were obtained from the Mapy.cz website in WGS-84 format. The analysed sites were divided into six categories, which were subsequently worked with (Tab. 1):

A	Settlements, where we classify common evidence of rural settlements, where at least one storage or settlement pit was found
B	Cemeteries, where at least one grave has been identified (excluding finds of burials and human remains in settlement pits)
C	Fortified and unfortified hilltop settlements, or locations with clear evidence of significant fortification
D	Enclosed settlements
E	Hoards
F	Random or solitary finds without a clear find context

Tab. 1. Distribution of the observed components into individual categories.

Tab. 1. Rozdělení sledovaných komponent do jednotlivých kategorií.

Each find was assigned a different level of so-called ‘site weight’, based on the number of individual features or graves documented at the site. During the data processing, these two variables proved to be the most objective attributes for comparison. For settlements, the number of storage or settlement pits was chosen. The number of above-ground post structures was not included separately, as there is not enough data available from the studied region. In the case of finding one pit, for example, a value of ‘3’ was assigned, compared to the discovery of one grave, which received a value of ‘1’. The creation of a storage pit and its subsequent archaeological preservation most likely required a longer period of time for its formation than a one-time burial act. Cultural layers, which appear in some find reports, are also considered. These have, for example, a higher value than a solitary object, because it is likely that they formed over a longer period. The findings of specific numbers of settlement pits or graves are then graded, and corresponding values are assigned to them. The relatively broad intervals allow for the reliable inclusion of such sites in the statistics, where the find report contained, for example, only the phrase: ‘a group of graves

Type of component and its extent	Site weight
Random find / solitary find	
Random find / solitary find	1
Settlement structure	
1 feature	3
2–20 features / cultural layer	5
21–50 features / cultural layer / fortification	7
51–100 features / cultural layer / fortification	9
>100 features / cultural layer / fortification	11
Cemetery	
1 grave	1
2–5 graves	3
6–15 graves	5
16–30 graves	7
>30 graves	9
Hoard	
Hoard	1

Tab. 2. Distribution of components according to the number of identified objects and assignment of weight to specific sites.

Tab. 2. Rozdělení komponent podle množství identifikovaných objektů a přidělení váhy konkrétním lokalitám.

was recorded', or 'more settlement pits were excavated at the site, the material is listed in the appendix'. This way, we do not lose a non-negligible portion of the data (about 20% of all input sites). Despite a certain degree of uncertainty, we can assess the relative density of settlement, or rather the discovered evidence of such settlement, in the given area. Hoards and solitary or random finds have a value of 1, as they were placed in the ground or into the archaeological process only once during a single event.

The processed input data (GPS coordinates, individual components, site weights, and datings) were entered into an Excel spreadsheet and used in the ArcGIS Pro software environment to create the resulting maps. Soil maps of the Czech Republic at a scale of 1:50,000 (ČGS), available in the basic offering of the aforementioned program, were used as a basis. Heat models were also applied to the data in various examples, with the weights of individual sites serving as the basis for their application (see Tab. 2).

3. Analysed data and results

Several resulting maps were created from the obtained data, displaying various partial and complex results. Initially, all input components were incorporated into the model (Fig. 1). Although the Proto-Únětice culture (25 sites) formally falls into the end of the Eneolithic, it was interesting to observe the spatial distribution of these findings within the region. It is absolutely evident that the most frequently represented component is the Únětice culture (913 sites), followed by the Věteřov group (90 sites). A smaller portion of the samples could not be classified more precisely than as part of the general Early Bronze Age (60 sites). In the case of the hillfort site Leskoun near Olbramovice, it is not possible based on current knowledge to precisely determine the share of Únětice culture and Věteřov group, so the site is classified as mixed with both components.

Another output is the separately plotted Proto-Únětice sites. Here, we can observe a very limited geographical trend and concentration of this type of site. The evidence consists mainly of cemeteries, with a smaller number of settlements. The map is also supplemented with heat maps created in the GIS environment based on site weight parameters. As a result, the map visualises the area/areas with the highest number of archaeological findings from this period. We can see that the most significant 'concentration' is in the Brno Basin area, associated with the southwestern exit of the Vyškov Gate, and the second notable area with evidence of activity during this period is in the broader region of today's Novomlýnské reservoirs. Therefore, it can generally be stated that within the studied area (as described above), the vast majority of all findings are located in the eastern half of the perimeter. In the western part of the studied area, evidence of the Proto-Únětice culture is only sporadic (Fig. 2).

The separately plotted Únětice sites were recorded in a large part of the studied area (defined around the Blučina and Budkovice sites). Except for the area roughly defined by the cadastres of Miroslav, Hodonice, Hrušovany nad Jevišovkou, and Vlasatice (Fig. 3 – A), the settlement density is relatively stable. The absence of findings in some small microregions may largely be due to the lack of research or the absence of amateur archaeologist activity in the late 19th and early 20th centuries. On the other hand, due to this phenomenon and the intensive construction activities in the Brno area, east of Brno, and the Vyškov Gate area (Fig. 3 – B), we can observe a significant concentration of evidence of the presence of this culture. The largest number of sites is associated with high-quality chernozem soils (shown in gray on the base map) and fluviatile soils (light green). A significant portion of the sites is also located in cambisols and brown soils, particularly in the western and northwestern parts of the region towards Vysočina (Fig. 3 – C). One of the furthest evidence of

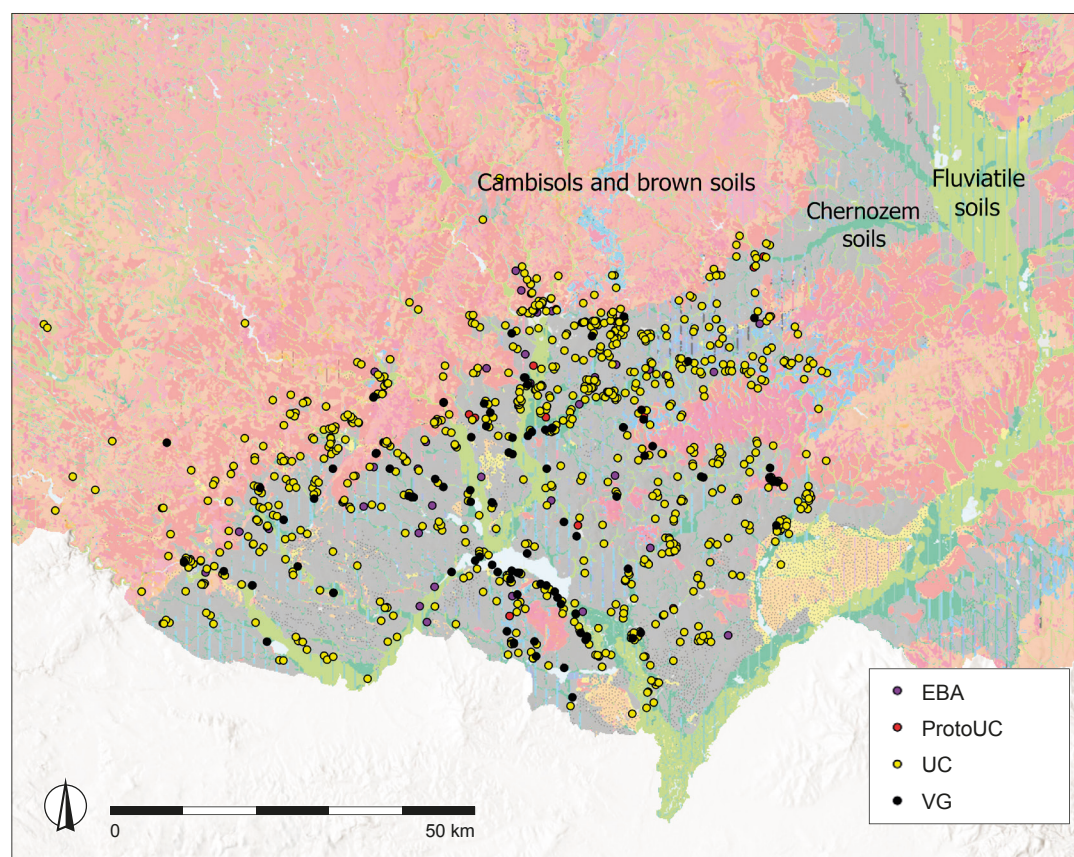


Fig. 1. All components included in the analysis. General Early Bronze Age (60 sites); Proto-Únětice phase (25 sites); Únětice culture settlement (913 sites); Věteřov group settlement (90 sites). Author D. Hons.

Obr. 1. Všechny komponenty, které vstoupily do analýzy. Starší doba bronzová obecně (60 lokalit); protoúnětická fáze (25 lokalit); únětické osídlení (913 lokalit); věteřovské osídlení (90 lokalit). Autor D. Hons.

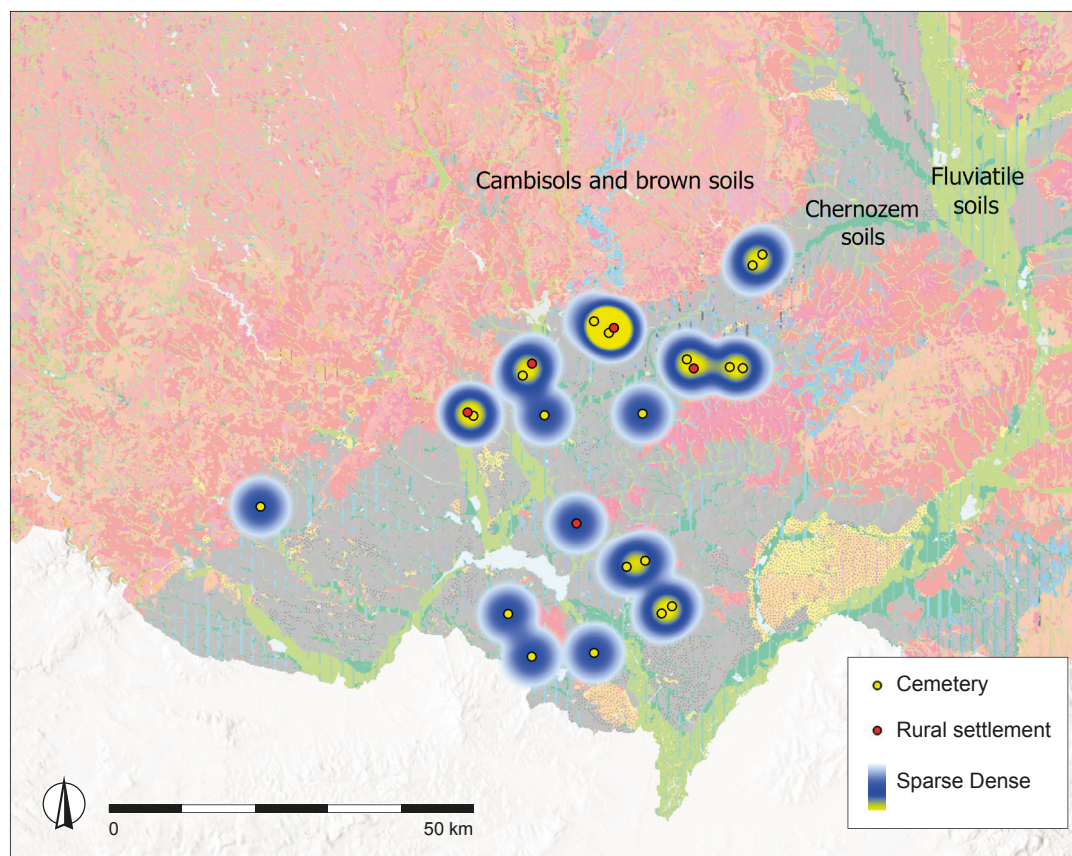


Fig. 2. Proto-Únětice sites plotted separately. Heat maps were used for visualisation. Author D. Hons.

Obr. 2. Samostatně vynesené protoúnětické lokality. Pro vizualizaci byly využity heat maps. Autor D. Hons.

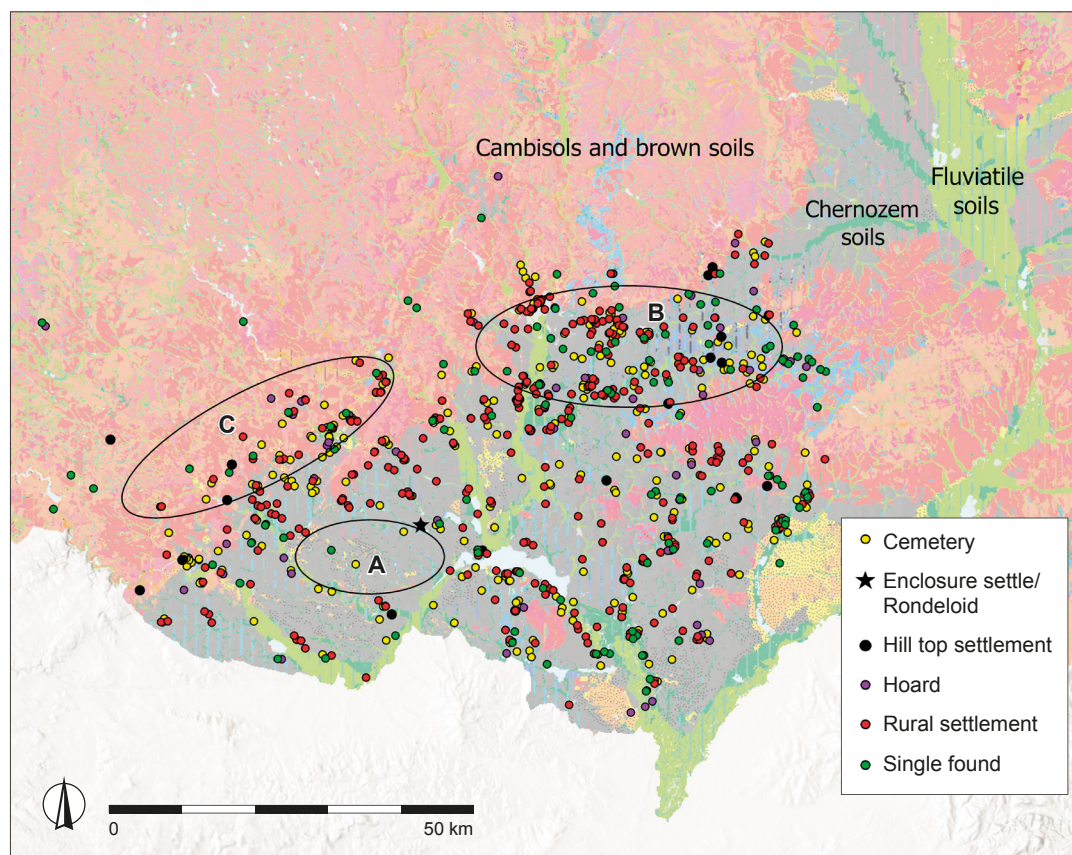


Fig. 3. Map of all Únětice culture components with representation of their relationship to soil types. A – lack of settlement in this area; B – high density of Únětice culture sites; C – a significant portion of the Únětice culture sites located in cambisols and brown soils. Author D. Hons.

Obr. 3. Mapa všech únětických komponent s vyjádřením vazby na půdní typy. A – chybějící doklady osídlení; B – vysoká koncentrace lokalit únětické kultury; C – relativně velké množství únětických lokalit situovaných na kambizemě a hnědozemě. Autor D. Hons.

activities during the Early Bronze Age from the core area in the southern Moravian lowland is the hillfort at Kramolín, where artefacts were found that can at least be associated with the activities of the Únětice culture (Bartík et al. 2022, 42). Additionally,

we can observe some penetration towards Vysočina in other microregions. Very often, the common combination of settlement and the cemetery occurring nearby is observed. Settlement finds dominate in the database. Of the total 913 sites, 45 are related to

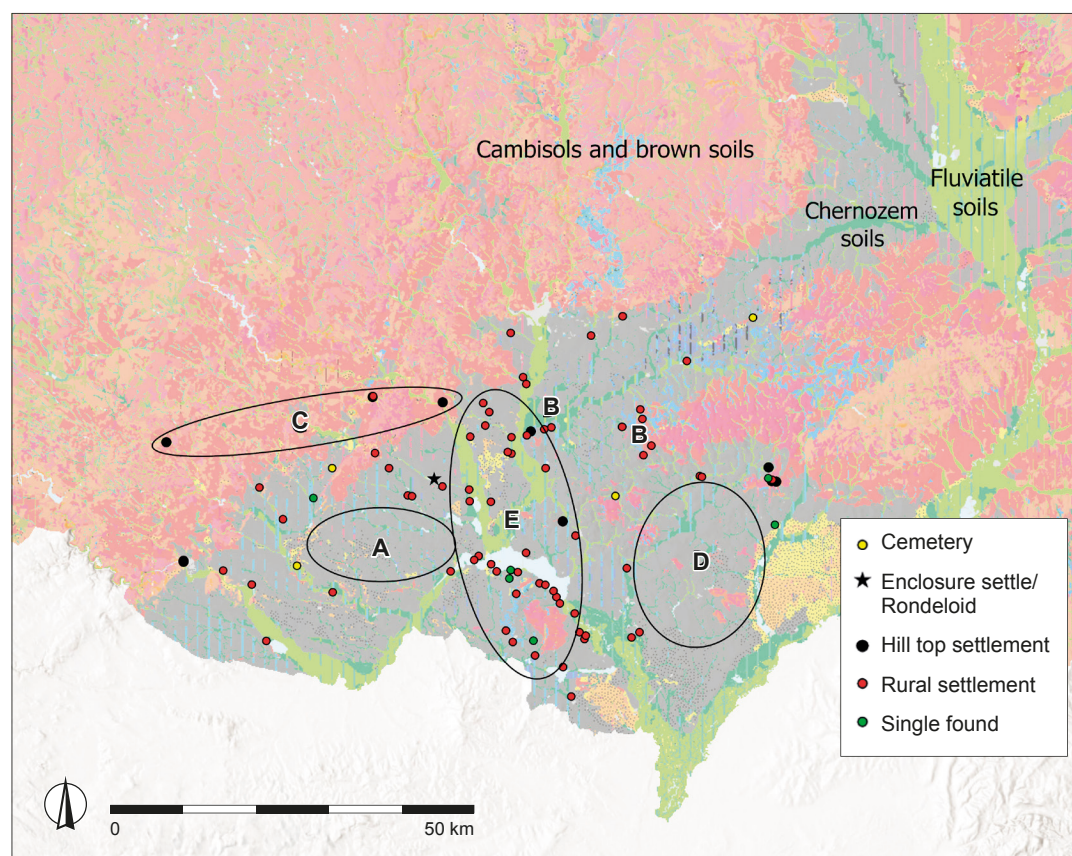


Fig. 4. Map of Věteřov group components. A, D – lack of settlement in this area; B – boundaries of the extension of the Věteřov group; C – sites of the Věteřov group situated on less fertile soils; E – the most intensive evidence of the settlement of the Věteřov group. Author D. Hons.

Obr. 4. Mapa věteřovských komponent. A, D – chybějící doklady osídlení; B – hranice osídlení věteřovské skupiny; C – lokality věteřovské skupiny, situované na méně úrodných půdách; E – nejintenzivnější doklady osídlení věteřovské skupiny. Autor D. Hons.

various-sized hoards. Many of these are quite old in terms of the date of their discovery, and in many cases, only written references to them have survived, not the actual artefacts. It is likely that the inclusion of a find database, which has significantly expanded in the last decade due to the development of citizen science, would have significantly altered the presented data in the case of hoards, but it was not possible to consider all sources.

The Věteřov group is represented by a significantly lower number of sites (90) compared to the Únětice culture. At the same time, settlements absolutely dominate as components, followed by hillforts/fortified sites. Cemeteries are represented by only five sites, the largest of which is the Borotice barrow in the Znojmo region (Stuchlík 2006), while the others are considerably smaller (summarised by Šabatová, Parma 2019a, 8). In terms of soil use, there is a much closer association with chernozems and fluvatile soils. The exceptions are Budkovice (hillfort/fortified site; Ondráček, Stuchlíková 1982), Dolní Kounice (hillfort site), and weak potential traces of Věteřov activities in Jevišovice (Fig. 4 – C). All other sites are concentrated in the most fertile areas of southern Moravia, and from an imaginary line defined roughly by the municipalities of Lovčičky to the east and Rajhrad to the west (Fig. 4 – B), we observe a significant decrease in the evidence of the Věteřov group's presence in the northern direction from this area. The less densely populated area is again roughly defined by the polygon of cadastral municipalities of Miroslav, Hodonice, Hrušovany nad Jevišovkou, and Vlasatice (Fig. 4 – A), like the situation with the Únětice culture (Fig. 3), as well as the space roughly between Hodonín, Břeclav, Kyjov, and Klobouky u Brna (Fig 4 – D). The highest concentration of finds is noticeable around the Novomlýnské reservoirs as well as in the area close to and around Blučina-Cezavy (Fig. 4 – E). No hoard associated with Věteřov group activities was identified in the studied materials.

For the purpose of expressing the intensity and longevity of settlement, a series of heat maps were created for each culture and their mutual comparison. In the first map (Fig. 5), we can see the concentration of settlement evidence for the Únětice culture. The darker the yellow colour, the more intensive the evidence of activity in that area. The region around the modern city of Brno and to the south and east of it clearly dominates (Fig. 5 – A). We can identify four potential concentrations (which overlap in some places). These can be labeled as the area of the city of Brno itself (NW concentration; Fig. 5 – A1), the Šlapanice and Slavkov region (NE concentration; Fig. 5 – A2), Blučina (SW concentration; Fig. 5 – A3), and Újezd u Brna (SE concentration; Fig. 5 – A4). A more pronounced concentration of sites, moving clockwise, can also be found in the Bučovice region with a centre roughly around the modern district of Bučovice-Marefy (Fig. 5 – B), further in the Kyjov (Fig. 5 – C), Velké Pavlovice (Fig. 5 – D), Novomlýnské reservoirs (Fig. 5 – E), Znojmo (Fig. 5 – F), the wider surroundings of Horní Dunajovice (Fig. 5 – G), and around Moravský Krumlov (Fig. 5 – H). In this model, the least densely populated area is roughly the polygon of the municipalities of Miroslav, Hodonice, Hrušovany nad Jevišovkou, and Vlasatice (Fig. 5 – I).

The Věteřov settlement, shown using a heat map, yields relatively different results (Fig. 6). The two most significant concentrations are found in the areas of Blučina (Fig 6 – A) and the Novomlýnské reservoirs (Fig 6 – B). This is followed by the area around the eponymous site of Nové Hory near Věteřov (Fig 6 – C), Znojmo, and the adjacent rural settlements in Dyje and Hodonice (Fig 6 – D), and, to a lesser extent, the area around Lovčičky (Fig. 6 – E), Budkovice (Fig. 6 – F), and Šumice (Fig. 6 – G). The areas that can be considered open or sparsely settled by this component are much more extensive in comparison to the Únětice findings.

A comparison of overlapping concentrations of settlement between both components is shown below (Fig. 7). A significant overlap can be observed around the area of Blučina (Fig. 7 – A) and the Novomlýnské reservoirs (Fig. 7 – B). In these cases, it is

likely that we are dealing with evidence of significant and intensive use of the space by both components. The area around Znojmo and its urban development (Fig. 7 – C), and to a lesser extent between Pohorčelice and the Krumlovský les massif (Fig. 7 – D), also shows

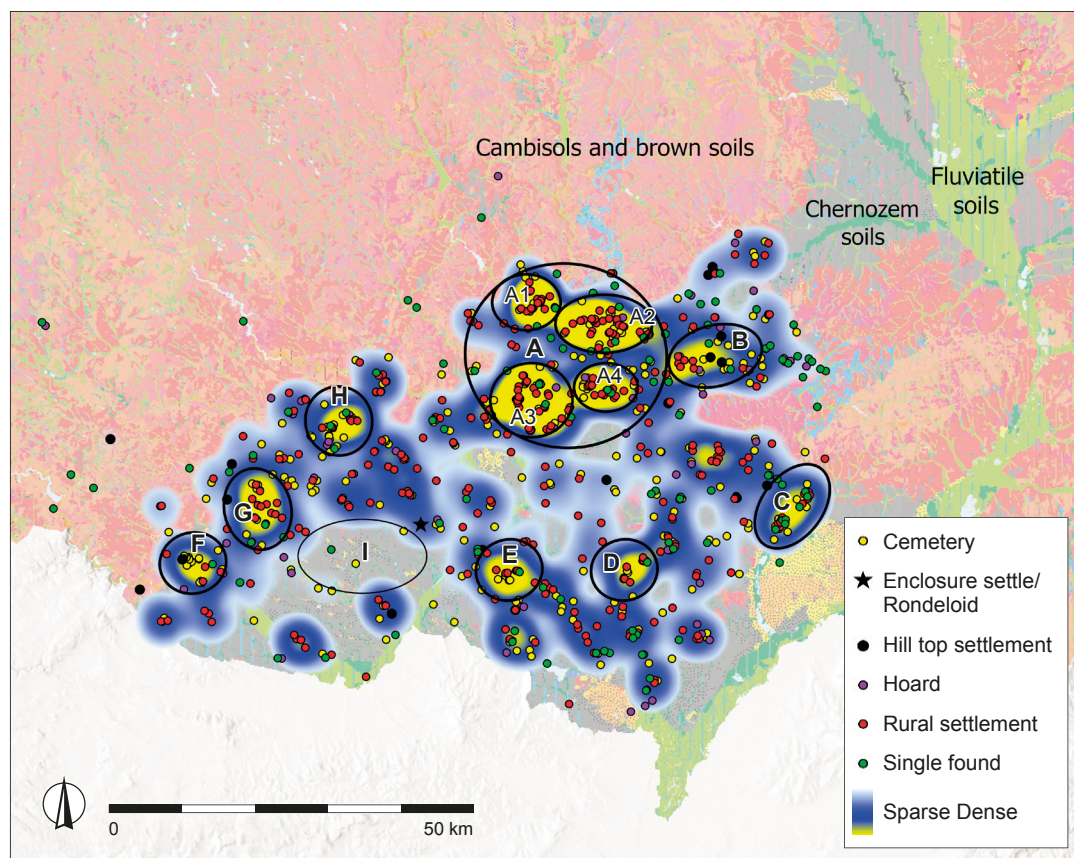


Fig. 5. Heat map showing the density of Únětice components. The more yellow the colour, the more intense the concentration of finds. The most intensive evidence of settlement of the Únětice culture: A1 – Brno; A2 – Šlapanice, Slavkov; A3 – Blučina; A4 – Újezd u Brna; B – Bučovice-Marefy; C – Kyjov; D – Velké Pavlovice; E – Nové Mlýny; F – Znojmo; G – Horní Dunajovice, Moravský Krumlov. Author D. Hons.

Obr. 5. Heat map s vyjádřením hustoty koncentrace únětických komponent. Čím žlutější zbarvení, tím intenzivnější koncentrace nálezů. Nejintenzivnější osídlené oblasti únětické kultury: A1 – Brno; A2 – Šlapanice, Slavkov; A3 – Blučina; A4 – Újezd u Brna; B – Bučovice-Marefy; C – Kyjov; D – Velké Pavlovice; E – Nové Mlýny; F – Znojmo; G – Horní Dunajovice. Autor D. Hons.

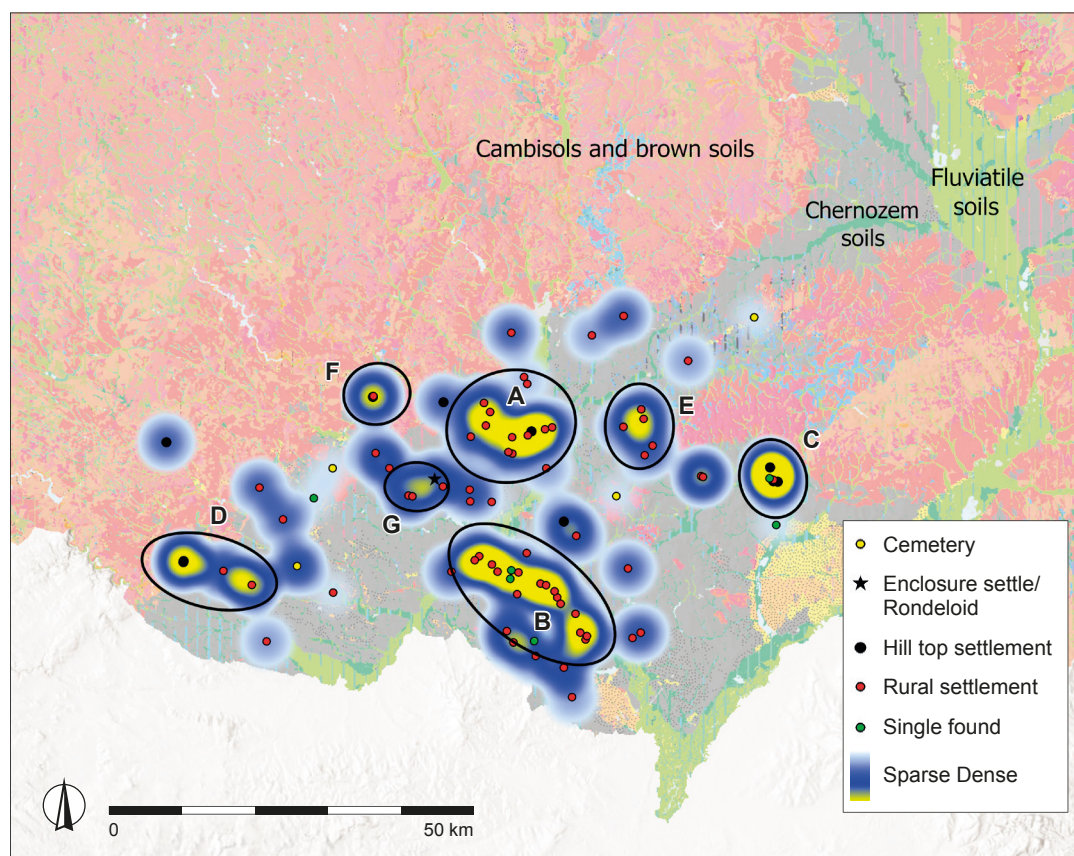


Fig. 6. Heat maps of Věteřov group settlements. The yellow the colour, the more intense the concentration of finds. The most intensive evidence of settlement of the Věteřov group: A – Blučina; B – Nové Mlýny; C – Nové Hory near Věteřov; D – Znojmo; E – Lovčičky; F – Budkovice; G – Šumice. Author D. Hons.

Obr. 6. Heat map věteřovských lokalit. Čím žlutější zbarvení, tím intenzivnější koncentrace nálezů. Nejintenzivnější osídlené oblasti věteřovské skupiny: A – Blučina; B – Nové Mlýny; C – Nové Hory u Věteřova; D – Znojmo; E – Lovčičky; F – Budkovice; G – Šumice. Autor D. Hons.

overlapping areas used by both cultures. Moving to the remaining parts of the map, in the eastern section, we can see notable Věteřov group settlement in the area around the eponymous locality of Nové Hory near Věteřov, located between the Kyjov region and the southern part of the Ždánický les (Fig. 7 – E). We know with great certainty that part of the material from Nové Hory near Věteřov can be attributed to the Únětice culture, though the majority likely belongs to the final phase of the Early Bronze Age. To the south, no significant overlap or concentration can be observed between Břeclav and the Novomlýnské reservoirs (Fig. 7 – F). An interesting feature is the relatively intense Věteřov group settlement along the River Dyje in the cadastres of Dyje (Rožnovský 2015, 178–179) and Hodonice (Rožnovský 2019), where significant rural settlements have been uncovered in recent years (Fig. 7 – C). These settlements also contain Únětice culture components, but Věteřov group clearly dominates. The area roughly northeast of Znojmo, with an imaginary centre in Horní Dunajovice (Fig. 7 – G), is almost entirely Únětice culture. The area northwest of the Krumlovský les massif is relatively similar to the situation in Nové Hory near Věteřov. In Budkovice, there is a Věteřov group hillfort, and the area around Moravský Krumlov to the southwest and Ivančice to the northeast symbolically encloses it (Fig. 7 – H). North of the line connecting Lovčičky and Rajhrad, the Únětice culture component overwhelmingly dominates, both within the city of Brno and in the region to the east and northeast of the city towards the Vyškov Gate (Fig. 7 – I).

Attention was also given to the Únětice culture and Věteřov group hilltop sites. These sites are often viewed as central, making it important to examine their relationships and spatial placement. Another motivation was to compare the relative number of hilltop/fortified sites from the Early Bronze Age (Fig. 8), a topic that has been significantly reflected upon in the last three decades. Lastly, the aim was to compare their relationships and placement within the concentrations arising from the previous maps (Fig. 9, 10).

Hilltop/fortified sites in the Early Bronze Age	Amount
Únětice culture	21
Věteřov group	12
Early Bronze Age	7

Tab. 3. Number of Eneolithic, Věteřov group, and Early Bronze Age hillfort/fortified components.

Tab. 3. Počet únětických věteřovských a starobronzových výšinných/opevněných komponent.

Looking at the number of hilltop/fortified sites in the Early Bronze Age in the studied area, it is clear that the Únětice culture sites outnumber those of the Věteřov group. Even if all sites broadly dated to the Early Bronze Age were attributed to the Věteřov group, the numbers would be roughly balanced. The map also highlights another phenomenon of the Early Bronze Age, namely the presence of enclosed settlements sites, which can be described as ditches typically located in flat areas with an inhabited interior, possibly with burial activities in close proximity. It is noteworthy that all three of these defined sites are in a very limited area, roughly in the centre of the region delineated by the Krumlovský les, Pálava, and Blučina (A – Fig. 8). The Troskotovice rondel is attributed to the Únětice culture, the Šumice rondel to the Věteřov group, and the Vlasatice one is generally dated to the Early Bronze Age. It is not the intention of this paper to discuss in detail their possible function and significance, but from the perspective of spatial data within the context of the Early Bronze Age, these sites are undoubtedly an important component (Tab. 3).

Maps Fig. 9. and 10 show the relationship between the most prominent concentrations of settlement and the locations of hillforts/fortified sites. The first case concerns Únětice culture situations (Fig. 9). Most sites are not located in areas where the heat models show the most intense evidence of settlement, but are rather in peripheral zones of each concentration or situated

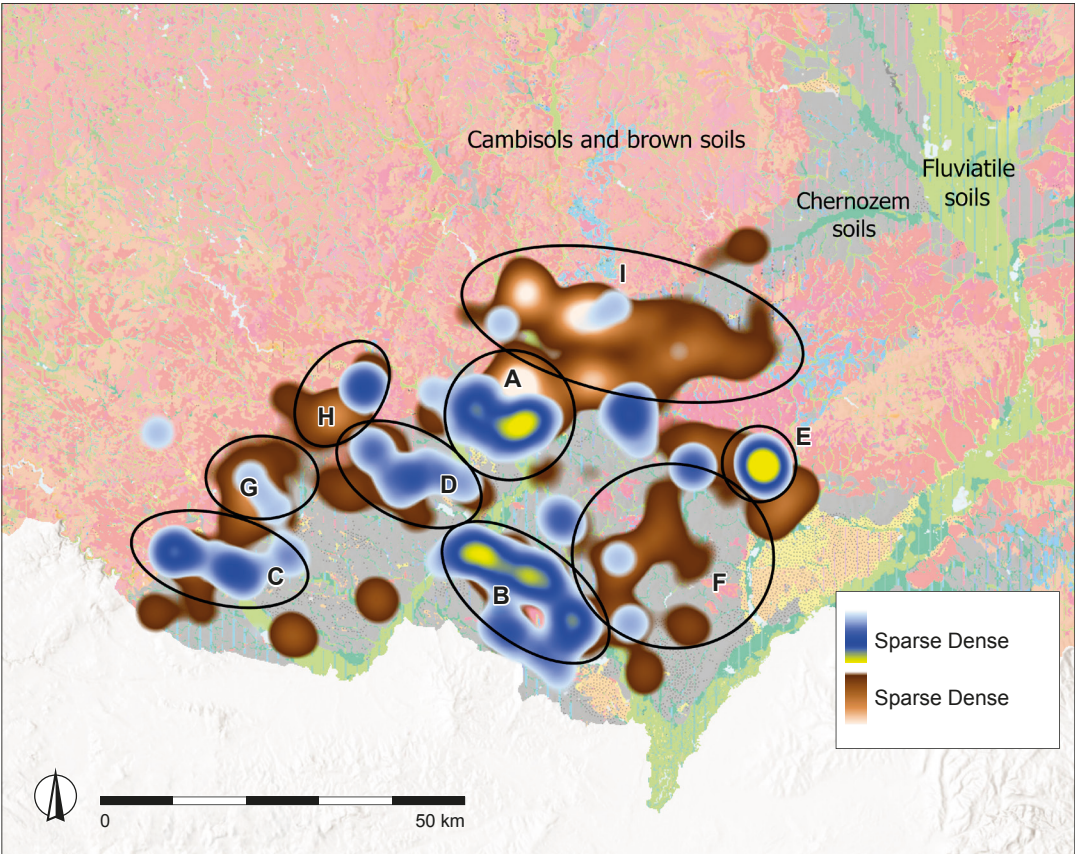


Fig. 7. Relative overlap of the highest settlement concentrations between the Únětice culture (brown) and the Věteřov group (blue). The most intensive overlapping settlement: A – Blučina; B – Nové Mlýny; C – Znojmo; D – from Krumlovský les to Pohořelice. The Věteřov settlement represents the imaginary centre of the region: E – Nové Hory near Věteřov; H – Budkovice. Dominance of the Únětice settlement: F – from Kyjov to Mikulov; G – Horní Dunajovice; I – from Brno to Vyškov. Author D. Hons.

Obr. 7. Relativní překryv nejvyšších koncentrací osídlení mezi únětickou kulturou (hnědá) a věteřovskou skupinou (modrá). Nejvýraznější překryv osídlení: A – Blučina; B – Nové Mlýny; C – Znojmo; D – od Krumlovského lesa k Pohořelici. Věteřovské osídlení tvoří potenciální střed osídlení: E – Nové Hory u Věteřova; H – Budkovice. Dominance únětického osídlení: F – od Kyjova k Mikulovu; G – Horní Dunajovice; I – od Brna k Vyškovu. Autor D. Hons.

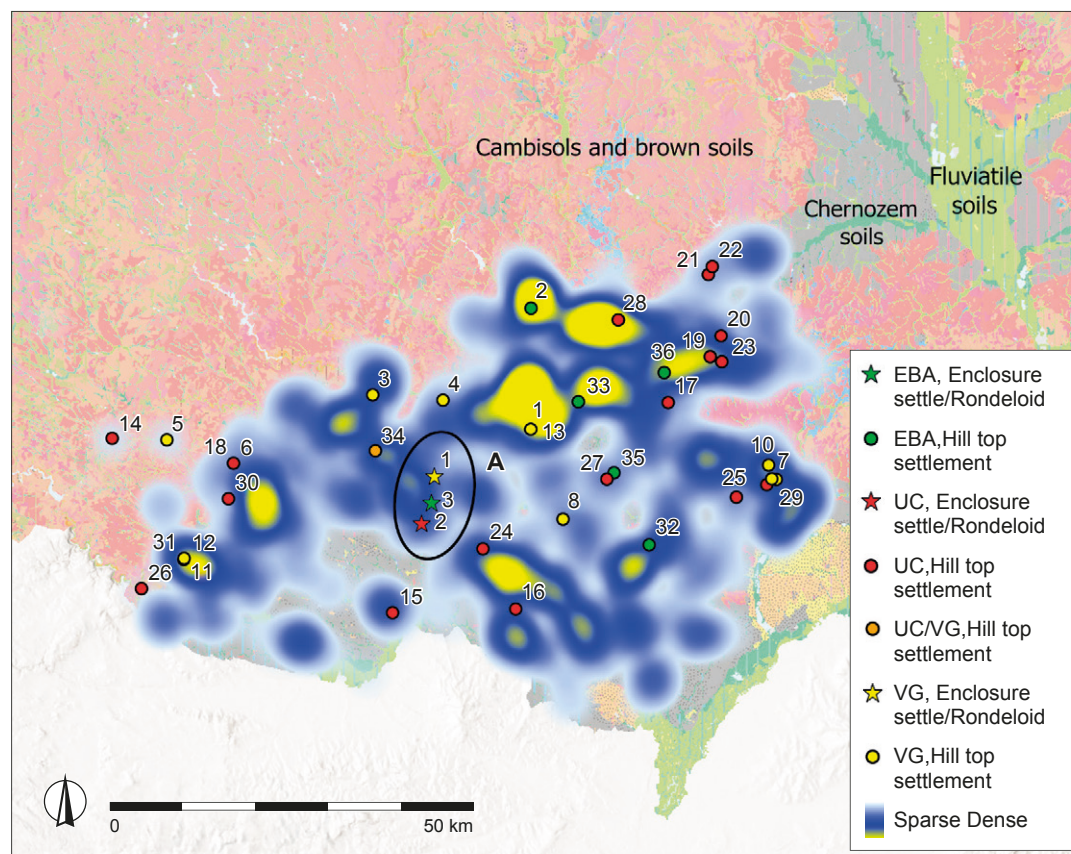


Fig. 8. Map of hillfort/fortified sites and rondeloids of the Únětice culture, Věteřov group, and the Early Bronze Age. Hillfort/fortified sites: VG: 1 – Blučina-Cezavy; 3 – Budkovice-Myslivárna; 4 – Dolní Kounice; 5 – Jevišovice-Starý Zámek; 6 – Křepice; 7 – Sobůlky-Vala; 8 – Starovice; 9 – Nové Hory near Věteřov / U Příček; 10 – Nové Hory near Věteřov; 11, 12 – Znojmo-centrum; UC: 13 – Blučina-Cezavy; 14 – Grešlové Mýto; 15 – Hrušovany nad Jevišovkou; 16 – Klentnice; 17 – Kobeřice; 18 – Křepice; 19 – Křižanovice-Vinohrady; 20 – Letonice; 21 – Luleč-Sv. Martin; 22 – Luleč-Kolovratnice; 23 – Marefy-Člupy; 24 – Mušov-Hradisko; 25 – Nenkovice; 26 – Podmolí-Šobes; 27 – Šitbořice-Prostřední Torhety; 28 – Tvarožná-Santon; 29 – Věteřov-Babí Lom; 30 – Výrovce-Velká Skála; 31 – Znojmo-centrum; EBA 2 – Petrov; 32 – Kobylí-Lumperky; 33 – Měnín-Vinohrádky; 34 – Olbramovice-Leskoun; 35 – Šitbořice-Domaniny; 36 – Vážany nad Litavou. Enclosed settlement: 1 – Šumice (VG); 2 – Trostkovice (UC); 3 – Vlasatice (EBA). Author D. Hons.

Obr. 8. Mapa výšinných/opevněných lokalit a rondeloidů únětické kultury, věteřovské skupiny a obecně starší doby bronzové. Výšinné/opevněné lokality – VG: 1 – Blučina-Cezavy; 3 – Budkovice-Myslivárna; 4 – Dolní Kounice; 5 – Jevišovice-Starý Zámek; 6 – Křepice; 7 – Sobůlky-Vala; 8 – Starovice; 9 – Nové Hory u Věteřova / U Příček; 10 – Nové Hory u Věteřova; 11, 12 – Znojmo-centrum; UC: 13 – Blučina-Cezavy; 14 – Grešlové Mýto; 15 – Hrušovany nad Jevišovkou; 16 – Klentnice; 17 – Kobeřice; 18 – Křepice; 19 – Křižanovice-Vinohrady; 20 – Letonice; 21 – Luleč-Sv. Martin; 22 – Luleč-Kolovratnice; 23 – Marefy-Člupy; 24 – Mušov-Hradisko; 25 – Nenkovice; 26 – Podmolí-Šobes; 27 – Šitbořice-Prostřední Torhety; 28 – Tvarožná-Santon; 29 – Věteřov-Babí Lom; 30 – Výrovce-Velká Skála; 31 – Znojmo-centrum; EBA 2 – Petrov; 32 – Kobylí-Lumperky; 33 – Měnín-Vinohrádky; 34 – Olbramovice-Leskoun; 35 – Šitbořice-Domaniny; 36 – Vážany nad Litavou. Rondeloidy: 1 – Šumice (VG); 2 – Trostkovice (UC); 3 – Vlasatice (EBA). Autor D. Hons.

between two prominent areas. The only location that might be considered closer to the centre is the site of Santon near Tvarožná (Fig. 9 – A), but this is a relatively small site, so it is unlikely to be considered a major centre. Also noteworthy is the concentration of hillforts in the Bučovice region (Fig. 9 – B), where at least two certain and one very probable Early Bronze Age situations have been identified (see Discussion below). At least in some cases, it seems that the hillforts were located more on the outskirts of settlement areas, or that they were not as frequently central settlement points.

The hillfort/fortified sites of the Věteřov group offer a different perspective (Fig. 10). They more frequently represent the central areas of settlement density expressed through heat maps. Such a concentration is represented by three hillforts in the vicinity of the eponymous locality Nové Hory near Věteřov (Fig. 10 – A), Blučina (Fig. 10 – B), considered one of the central regions of Moravia, or the Znojmo enclave (Fig. 10 – C). From the area of intense settlement near the Novomlýnské reservoirs, no convincingly documented hilltop sites have yet been found that can be associated with this period. The map also shows central positioning in the case of the Budkovice site (Fig. 10 – D); however, this is because we lack a rural settlement in the vicinity of this hillfort that could formally be attributed to the given culture.

The most significant presence of hilltop sites is located along the imaginary axis of Budkovice – Blučina – Nové Hory near Věteřov.

The second-to-last distribution map is dedicated to the question of the distribution of deposits in relation to hilltop settlement or settlement concentrations (Fig. 11). It is addressed only for the Únětice culture, as all dated deposits are associated with it. The distribution of deposits may also help in attempts to identify the use and organisation of the space in which the society settles, as it is assumed that deposits were placed outside of the typical settlement environments. We can notice both relatively isolated finds, located in areas with higher altitudes or on the outskirts of the settlement ecumene, as well as deposits found in areas with the most intense evidence of settlement, particularly around the Santon area (Fig. 11 – A). A notably higher number of deposits can be observed in the area of the Krumlovský les or the region to its west (Fig. 11 – B). This is likely due to geographical conditions, where deposits in forested environments often survive until discovery more easily than in open agricultural landscapes.

The final map (Fig. 12) is created based on the inclusion of all the components mentioned above and aims to show the presumed main concentrations of human activity during the Early Bronze Age in the defined region, based on current knowledge. The map, using the weight of the components of each site, displays

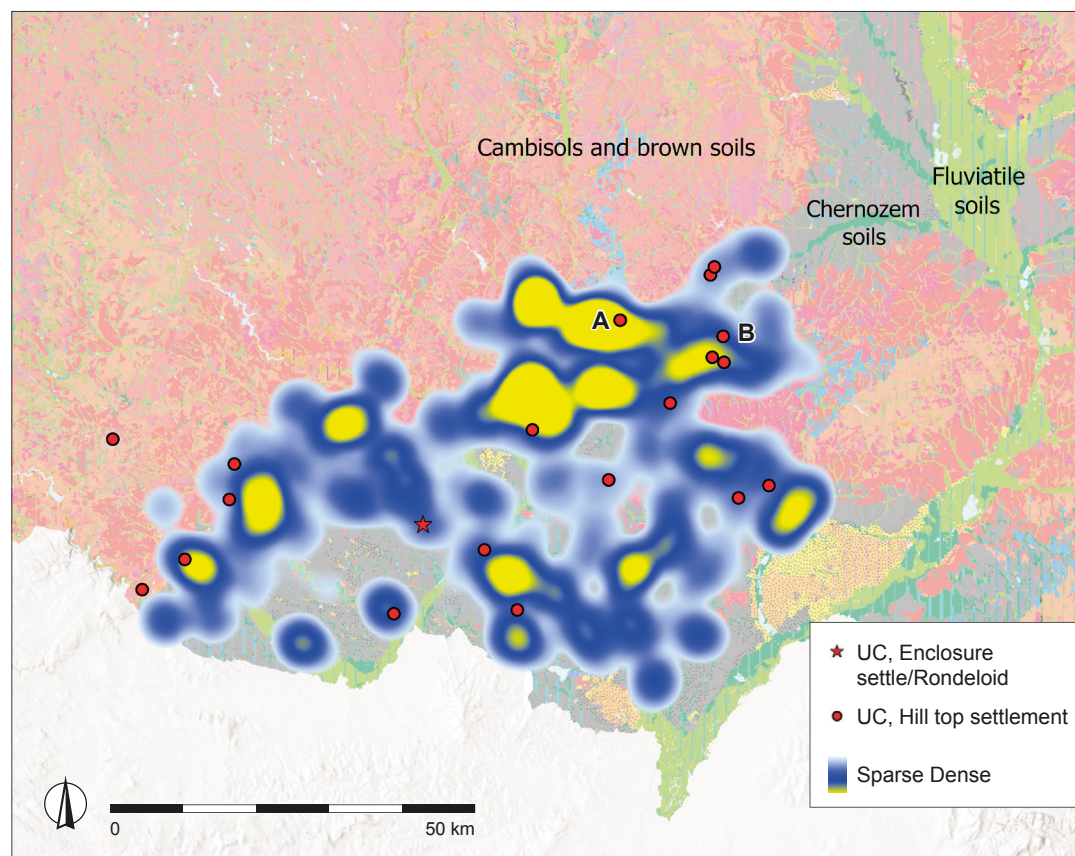


Fig. 9. Detail of the location of the fortified/hilltop sites of the Únětice culture in relation to settlement concentration. Some sites are situated in the middle of settlement: A – Tvarožná-Santon; B – Marefy-Letonice. Author D. Hons.

Obr. 9. Detail situování výšinných/opevněných lokalit únětické kultury vůči koncentraci osídlení. Některé lokality jsou v pomyslném středu koncentrace osídlení: A – Tvarožná-Santon; B – Marefy-Letonice. Autor D. Hons.

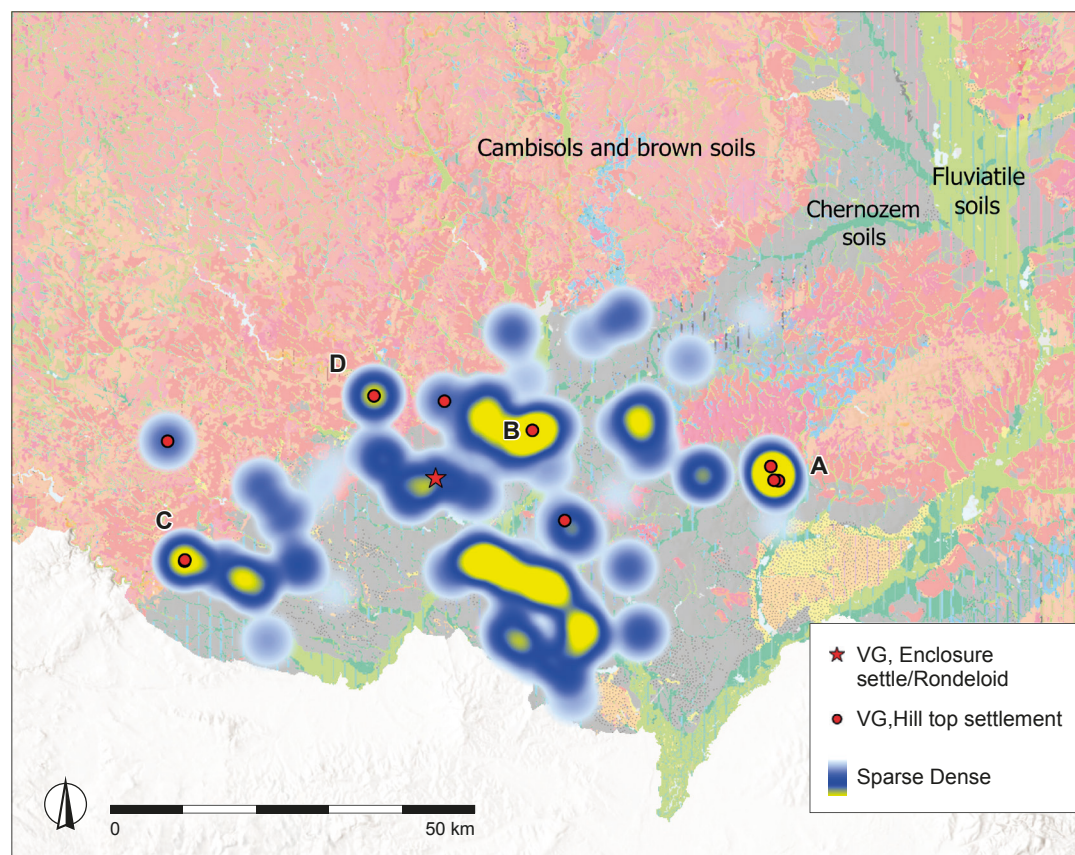


Fig. 10. Detail of the positioning of hilltop/fortified sites of the Věteřov group relative to the settlement concentration. The potential central sites of settlement: A – Nové Hory near Věteřov; B – Blučina; C – Znojmo; D – Budkovice. Author D. Hons.

Obr. 10. Detail situování výšinných/opevněných lokalit věteřovské skupiny vůči koncentraci osídlení. Potenciální centrální lokality v rámci osídlení: A – Nové Hory u Věteřova; B – Blučina; C – Znojmo; D – Budkovice. Autor D. Hons.

several areas that form smaller concentrations and essentially correspond to the partial findings and visualisations from the above outputs. Primarily based on the areas around Brno and its surroundings (Fig. 12 – A1-A5), Znojmo (Fig. 12 – B) and the areas

to the northeast of it (Fig. 12 – C), as well as the concentration in the Novomlýnské reservoirs area (Fig. 12 – D), it is possible, with caution, to infer the possible organisational structure of the societies that lived in this region at that time (see Discussion below).

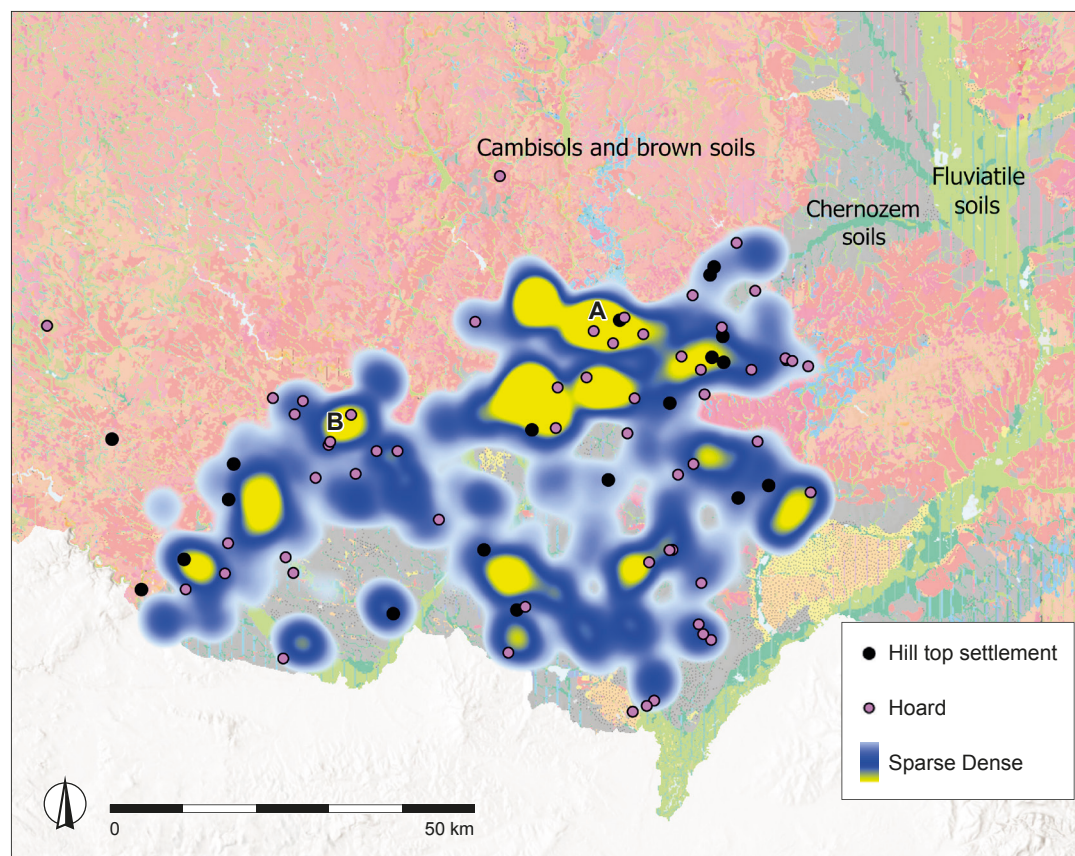


Fig. 11. Distribution of deposit finds (purple) in relation to hilltop/fortified positions (black) and areas with the most intense evidence of Únětice culture settlement. Higher number of hoards within more intensive settlement: A – Tvarožná-Santon. The highest concentration of hoards: B – Krumlovský les and surrounding area. Author D. Hons.

Obr. 11. Distribuce nálezů depotů (fialová) vůči výšinným/opevněným polohám (černě) a oblastí s nejintenzivnějšími doklady únětického osídlení. Vyšší koncentrace depotů v rámci intenzivního osídlení: A – Tvarožná-Santon. Největší koncentrace depotů: B – Krumlovský les a okolní oblast. Autor D. Hons.

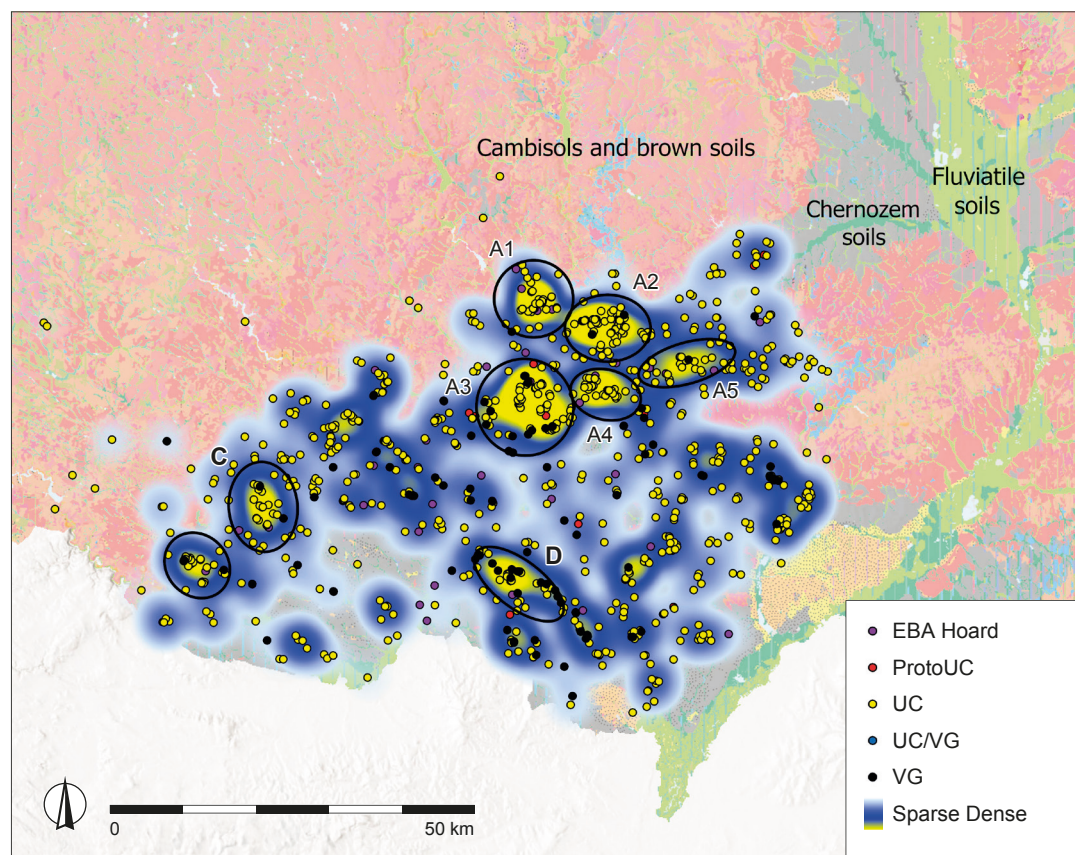


Fig. 12. Spatial heat model based on the weight of sites from all input components. Potential areas controlled by one community: A1 – Brno; A2 – Šlapanice-Slavkov; A3 – Blučina; A4 – Újezd u Brna; A5 – Mareš; B – Znojmo; C – Horní Dunajovice; D – Nové Mlýny. Author D. Hons.

Obr. 12. Prostorový heat model na základě váhy lokalit všech vstupních komponent. Potenciální oblasti kontrolované jednou komunitou: A1 – Brno; A2 – Šlapanice-Slavkov; A3 – Blučina; A4 – Újezd u Brna; A5 – Mareš; B – Znojmo; C – Horní Dunajovice; D – Nové Mlýny. Autor D. Hons.

4. Discussion

First and foremost, it is necessary to attempt to define the most likely time span to which the data mentioned above correspond. Early Bronze Age takes approximately 500–600 years (2200/2100–1550 BC). For example, the datings of J. Peška (2012, 305), who provides results ranging from 2050/2000–1500 BC for the entire Early Bronze Age, prove it. However, what significantly differs is the internal division of the Early Bronze Age between the two key components: the Únětice culture and the Věteřov group. While the radiocarbon database currently suggests that the Věteřov group lasted approximately 150 years between 1650–1500 BC (Dreslerová 2025), J. Peška, based on radiocarbon data, places its beginning around 1950–1900 BC. Comparing this with the work of K. Šabatová and D. Parma (2019a, 20), who focus on changes in burial rituals in the final phase of the Early Bronze Age, we obtain current data showing that Únětice culture burial sites likely ended around 1750–1700 BC, while Věteřov group burial sites were probably established at new locations between 1750–1610 BC. Data from Bohemia for the classical Únětice culture phase fall between 2000–1850 BC (Ernée et al. 2009; Ernée 2015, 294–295). Additionally, the question of the end of the Early Bronze Age and the beginning of the Middle Bronze Age is crucial. Based on data from several sites, it does not seem unlikely that the beginning of the barrow cultures can be dated to around 1600 BC (Šabatová, Parma 2019b, 134–135). With the increasing number of data points, it seems more likely that the beginnings of the Věteřov culture can be placed at least in the 18th century BC, possibly even earlier, and its end could fall as early as 1600 BC. Therefore, the Věteřov group would have lasted approximately 150–200 years, while the Únětice culture would span roughly from 2100–1700 BC, that is, 400 years. In addition to the question of the possible contemporaneity of the two cultural groups, we now have further clues. It is probable that the Únětice culture, at least in some regions, lasted much longer than we originally assumed. The duration of both major components of the Early Bronze Age is, after all, crucial in light of the critiques of the sources we work with and their relative number.

One of the foundational works used for data processing is the article by P. Tóth and D. Oravkinová (Tóth et al. 2019). In this work, the authors address the issue of the development of settlement structures of the Ottomány culture in eastern Slovakia. They conclude that the approximately 800-year-long cultural complex can be divided into no more than three phases, each lasting 250–300 years, based on settlement findings. At the same time, considering the article by F. Trampota and P. Květina (2020), which focuses on the Neolithic and Eneolithic periods, it certainly provides a stimulus for reflecting on the division and internal chronology for later periods as well. The article critically examines existing typo-chronological divisions of cultures and their internal development and argues that the data frequently show the impossibility of associating specific decorative styles as a periodizing element applicable to the entire cultural component. Instead, these styles more often reflect a chronology specific to a particular locality. However, the aim of this article is not to debate existing typologies; this example simply illustrates the effort to offer a new perspective on existing data. Based on the two aforementioned works, or rather their main ideas, the initial intention was formulated for comparing the intensity of Únětice culture and Věteřov group settlement. Based on the above, we are able to identify two main components within the Early Bronze Age, whose time span essentially corresponds to the case study of the Ottomány culture (as mentioned earlier). As already indicated in the methodology chapter, this is another

reason why the internal division of neither of the two main components of the Early Bronze Age has been addressed.

Another important stimulus for this work was the aforementioned study on the organisation of society in the Bronze Age (Earle, Kristiansen eds. 2010). Due to the lack of established models for Central Europe, the closest and most comprehensively processed analogy was found in studies associated with the development of the Benta Valley south of Budapest, where the development of settlement structures was tracked throughout the Bronze Age up to the first phase of the Iron Age. In this microregion, covering about 50 km² and defined by surrounding physical-geographical conditions, located around a short stream flowing into the Danube, the local society's development was studied (Earle, Kristiansen eds. 2010, 86). For the Middle Bronze Age, which is data-wise analogous to the Early Bronze Age in Central Europe, the authors propose a form of dual leadership. They identify 13 settlements, with the largest fortified site located by the Danube, which likely controlled the river space and protected/controlled the inhabitants of the valley. Further upstream, 2–4 smaller fortified locations were found, all smaller in area than the first. These fortified locations concentrated about 35% of the population, while the rest lived in rural settlements, one of which was significantly larger than the others, which were rather smaller, supplemented by several individual homesteads. For this period, the authors lack burial sites in this microregion, but based on the analysis of settlement materials, they work with a dual division of power model, where the main fortified centre oversees the trade component and the largest rural settlement handles the agricultural production component (Earle, Kristiansen eds. 2010, 72–75).

To define the mode of societal organisation in our context, we need to address the issue of spatial control within a single community. The theory of community areas was primarily addressed by E. Neustupný, who worked with the division of the community area into individual components (Neustupný ed. 1998, 10–11). Geographic units such as micro and macroregions, on the other hand, are not considered highly informative, as they may or may not correspond to reality (Neustupný ed. 1998, 18). In contrast, Natálie Venclová (1994, 1995a, 1995b) worked with the definition of so-called production zones, based on which she tried to achieve the same goal. D. Dreslerová (1998, 125) attempted to bring some of these theories into practice through the analysis of several regions in Bohemia. Due to the relatively easy accessibility and manageability of data, spatial data from the Early Bronze Age were selected for creating a framework model. Based on the theory of community areas (Neustupný ed. 1998, 11–12), each component was assigned specific weights, which should, to some extent, reflect the living space of individual communities necessary for their functioning. The graphical representation of this space on the map is shown through heat models. If we can define areas of community territories, we can consider the extent of the space controlled by these communities (Neustupný ed. 1998, 12). Significant changes in the organisation of settlement structures could, in prehistoric contexts, indicate a shift in societal organisation (Neustupný ed. 1998, 18). This is a crucial point when tracking the occurrence of individual archaeological components in the observed period. Given the assumption that a society may inhabit a similar environment to that of previous generations, it may seem logical that long-term used areas would carry more archaeological records. However, we must also consider the fact that some archaeological components (e.g. from the Neolithic) are rarely found during excavations, so we must approach this assumption cautiously (Neustupný ed. 1998, 46). For the Early Bronze Age, however, we can relatively reliably state that we are working with comparably visible evidence of past

societies (settlements, burial sites) in the archaeological record, and for this reason, it is possible to calculate the frequency of occurrence of archaeological situations based on the given data.

In terms of the location of settlements on different today soil types (Fig. 1, 2, 3, 4), we can observe a distinct dominance of the most fertile areas of southern Moravia, with certain exceptions primarily linked to the Únětice culture, which also utilizes less fertile soils such as cambisols and brown soils. Interestingly, the Věteřov group settlement generally avoids these types of soils, with a few exceptions. The relationship of individual sites to proximity to water sources, which is a fundamental prerequisite for the creation and functioning of settlements, is evident (e.g. Tóth et al. 2019, 58). This could be related to a different settlement strategy of the two cultures, but we do not have any more detailed data on this issue. At this point, we can compare soils and their quality with certain gaps in settlement density, as shown by some of the maps, particularly for the area of the polygon formed approximately by the cadastres of Hodonice, Hrušovany nad Jevišovkou, Vlasatice, and Miroslav (Fig. 5 – I). Since there seem to be no objective natural conditions preventing settlement in this or other less explored areas, two most likely explanations arise. The situation may reflect the lower intensity of archaeological research in these regions, and with the passing years, our current understanding of the area may change significantly. The second possibility could suggest that for unknown reasons, these areas were far less utilised during the Early Bronze Age. Personally, I tend to lean towards the first explanation, as these regions did not experience as much intensive archaeological activity in the past as areas like the Brno region (J. Stávek, A. Dvořáček), the Slavkov and Bučovice regions (K. Tihelka, M. Mazálek, etc.), where the archaeological record, thanks to earlier findings, is significantly richer.

What do the resulting models suggest? Proto-Únětice culture sites (Fig. 2) form only a very marginal part of the data used in the analysis (25 sites), but they show an interesting geographical distribution, being concentrated only in the eastern part of the defined area. These results can be compared with the distribution of sites presented in Prehistoric History of Moravia (Stuchlík 1993, 239, Map 18). Here, it is clear that the archaeological record has been expanded in the last 30 years, but the main regions where this component is found have not changed much. Could this indicate that the Proto-Únětice component was concentrated more in the eastern regions? Or, in the western half, where finds are more sporadic, are we seeing a lack of research or an inability to identify this component?

In the case of Únětice culture sites and their distribution, as well as the most significant concentrations, there is a clear and strong archaeological record around Brno and to the east and northeast of the city. Additionally, the Pálava Hills region, which has been archaeologically well-studied, shows notable concentrations of finds. An interesting concentration of finds is also located around the area where the theoretical centre lies in Horní Dunajovice, with Moravský Krumlov and its surroundings to the northeast. When compared to the evidence of the presence of the Věteřov group, it is clear that the Únětice culture component completely dominates the area. Less dense settlement evidence is also noted in Znojmo (although much of the evidence is likely overwritten by later activities, including the modern town), and around Kyjov. When we overlap the Únětice culture and Věteřov group sites (Fig. 5–7), it becomes evident that the same settlement areas or microregions were not consistently used across both cultures. While these cultures were traditionally thought to follow one another (e.g. Stuchlík 1993; Stuchlíková 1993), it is highly probable that this was not the case, at least not

everywhere. A clear continuity can be traced around the central area of Blučina-Cezavy, which was inhabited in both periods, and archaeological finds suggest it gained more significance during the Věteřov group phase, as evidenced by fortifications – missing in the earlier Únětice culture phase (Stuchlíková 1993, 267). Similarly, there is a notable continuity, or re-use of space, around the Novomlýnské reservoirs. In the case of Znojmo, we can see that both components utilized the wider centre of the town. We also know the larger settlements of Šatov and Hrádek from the Únětice culture, and from the Věteřov group, we also encounter large, flat settlements along the Dyje (Rožnovský 2015, 178–179) and in Hodonice (Rožnovský 2019). However, at the Věteřov group site in Budkovice, we are largely lacking evidence of common rural settlements from the same period. Yet, when plotted on a map, Budkovice fits well within the space between Únětice culture concentrations in Moravský Krumlov and its surroundings, and Ivančice. A very similar picture can be seen in the eastern part of the studied region, with the Věteřov group network of high settlements around Nové Hory near Věteřov, which surrounds Únětice culture sites in the southeastern part of the region near Kyjov, as well as Únětice culture sites in the south-western part of Ždánický les. It is important to note that evidence of high settlement locations in the Nové Hory near Věteřov area already comes from the Únětice culture, showing some continuity. Again, in the surrounding area, rural settlements of the Věteřov culture are missing. A dramatic shift in archaeological sources is observed in the region around the city of Brno and to the east and northeast of it. This region, one of the most archaeologically well-studied not only in Moravia but across the Czech Republic, presents a very minimal presence of the Věteřov culture – just a handful of objects at 4–5 sites. On the other hand, there is a very strong concentration of Únětice culture artefacts. It is unlikely that the absence of Věteřov group finds is due to an inability to identify them, as even research conducted in the last 30 years, primarily by researchers from the Institute for Archaeological Heritage Brno, has only identified a few sporadic signs of Věteřov group presence. Given this, it is reasonable to hypothesise that the Únětice culture persisted significantly longer in the Brno region, and likely coexisted with the Věteřov group established to the south of this area. A similar hypothesis can be considered for the region near Horní Dunajovice, where evidence of Věteřov group activity is also practically absent, despite strong concentrations of artefacts nearby in the Znojmo area. This remains speculative for now, but further research, particularly the series of radiocarbon datings, may confirm this theory. If we accept the hypothesis that the Únětice culture and Věteřov group components were contemporaneous in certain areas, and revisit the settlement in Budkovice and adjacent Únětice culture sites, it is possible that the Věteřov group played a role as a component controlling high or fortified positions, while Únětice culture settlements remained in the surrounding areas. Alternatively, it may be that our classification, based on pottery typology, is distorted by changes in vessel shapes, leading to the distinction of a culture or group that did not significantly differ from the previous one. At this stage, no conclusive answers can be given to these questions, but it is crucial to continue research to better understand and find solutions to these issues.

When focusing more specifically on hilltop settlement and their relationship to settlement density during the Early Bronze Age, we encounter a certain degree of uncertainty regarding their correct dating. In about a quarter of cases, we are able to assign these finds generally to the Early Bronze Age. Únětice culture hilltop/fortified sites are typically concentrated on the outskirts of the heaviest settlement concentrations. The exception

is the site of Santon near Tvarožná, but in this case, it was not definitively a large fortified settlement, as the area of the hill itself is only a few hectares. However, from the hill, one can overlook many tens of kilometers of the surrounding area and establish visual contact with Blučina, which is generally considered the central settlement for this period. In the immediate and distant surroundings of Santon, there are numerous settlements and cemeteries (summary in Hons 2020; 2022; 2023). Blučina, and possibly also Znojmo, definitely lie in the centre of a larger number of settlements, although the evidence for Únětice culture presence here is relatively damaged. The remaining hilltop/dominant sites are usually located on the outskirts of the most extensive settlement areas.

From the Věteřov group sites, Blučina-Cezavy can be considered the centre of a particular microregion. The remaining sites are often the only component in the landscape associated with the Věteřov group (Budkovice, Dolní Kounice, and the complex around Nové Hory near Věteřov). In the case of Znojmo, the wider surrounding area of potential hilltop sites could include settlements along the River Dyje, potentially in Hodonice. The relatively low number of Věteřov group sites (1 : 6) compared to Únětice culture settlements, might indicate a change in settlement structure. For the Únětice culture, smaller settlements of a few families are generally assumed (Stuchlík 1993). This atomisation could be the reason for the relatively higher number of Únětice culture components found. The duration of both cultural groups (2 : 1 at most) does not align proportionally with the number of discovered contexts (6 : 1 if we only consider settlements). A possible change in societal structure and greater accumulation of settlements in specific areas might be another reason why the density of Únětice culture and the Věteřov group appear differently in the archaeological record.

The spatial concentration of components referred to as *rondeloids/enclosed settlement* deserves a brief mention. All these components are clustered close to one another and cover all phases of the Únětice (Vlasatice; Bálek 1999), Věteřov (Šumice; Peška 2006), and Early Bronze Age (Troskotovice; Kovárník 1999) cultures. It seems that these areas were commonly used as settlements, or burial sites might have been located nearby. Whether these could represent ritual sites or meeting places cannot be ruled out; however, due to the significant accumulation of these structures in one area, it is also possible that these were simply a local custom for building enclosed or fortified settlements.

The mapping of the distribution of hoards in relation to hilltop sites was an attempt to trace a possible connection either with hillfort/fortified locations or with settlement concentrations. The distribution of hoards could theoretically assist in defining areas controlled by organised structures, as it can be assumed that hoards were more likely to be deposited in peripheral areas rather than at the centre of settlement and agricultural activities. However, the visualised data do not reveal any clear structure or pattern.

In conclusion, it is important to consider whether the visualised data and their interpretation can help in studying the social complexity of past societies. Some potential suggestions were already mentioned in the discussion. Summarising them, it is apparent that within certain smaller regions of the studied area, clear concentrations of archaeological finds can be observed. This is particularly true for areas around the city of Brno (64 km²), Blučina (170 km²), Šlapanice (125 km²), Újezd u Brna (40 km²), and Horní Dunajovice (50 km²). In these areas, both the Únětice culture and, in the case of Blučina, the Věteřov group component show distinct microregional concentrations. For example,

the area around Brno and near Santon is separated by geomorphological undulations in the landscape. Although this is a well-researched region, there is objectively a way to define a smaller dividing zone. Similar patterns are observed around Blučina and the area around Újezd u Brna, with Horní Dunajovice presenting a separate enclave to the northeast of Znojmo. The only well-studied example from Benta Valley (as mentioned earlier) covers 50 km² and is geographically defined. In southern Moravia, there is no clear potential for defining a geographical microregion with such clarity, and that is why this article was created as an alternative attempt to define the level of social organisation and structure. In the Hungarian example, the model involves a fortified site or sites combined with larger and smaller rural settlements, which together form a presumed organisational unit – a dual arrangement. In our case, we lack such a crucial transportation way like the Danube, which surely shaped settlement patterns and structure in Benta Valley. In the case of Moravia, we could consider a similar dual model with a potential central locality surrounded by rural settlements in places like Blučina or possibly Znojmo. This could apply to both Únětice culture and Věteřov group components. For Únětice culture, the model with hilltop/fortified sites might apply to areas around Tvarožná-Santon or Bučovice-Maref. If we allow for the simultaneous existence of Věteřov group and some Únětice culture sites, the most interesting central sites would be Budkovice, surrounded by the areas of Moravský Krumlov and Ivančice, as well as the area of Nové Hory near Věteřov, surrounded by the Kyjov region and settlements to the south of Ždánický les. All the above represents an initial proposal and an attempt to solve the dynamics of social development in the Early Bronze Age in Moravia. The hypotheses outlined will need to be tested with further analyses (the analysis of flint industries to study regional links and the analysis of ceramic production focused on microregions are already in process).

5. Conclusion

The attempt to understand socio-economic and organisational relationships in a period for which we lack any written sources is incredibly challenging. It is likely that we will never be able to identify many aspects of the society of that time with absolute certainty. The analysis presented above aims to stimulate a discussion about the directions research could take, and it is just one of the possible approaches to addressing this issue. It is certainly not a final solution to this complex question, but rather its first phase, and it is crucial that the hypotheses outlined above be further and more thoroughly examined with the help of additional archaeological evidence.

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Resumé

Článek se věnuje sídelní dynamice ve starší době bronzové na území jižní a jihozápadní Moravy za využití prostorových dat získaných z archivů a publikovaných zdrojů. Cílem je vytvoření teoretického modelu uspořádání tehdejších sídlišť a komunit. Jako základní porovnávané jednotky jsou použity sídlištní nebo zásobní jámy identifikované při výzkumech, kulturní vrstvy, hrobové celky, depoty a soliterní nálezy z téhož období. Každá komponenta má přidělenou váhu (váhu lokality) na základě počtu nalezených objektů, hrobových celků nebo přítomnosti kulturní vrstvy. Tyto hodnoty slouží jako vstupní data pro vizualizaci intenzity osídlení s využitím heat map v prostředí programu Arc GIS Pro. Získané údaje představují sérii map, kdy jsou jednotlivé lokality sledovány a hodnoceny na základě půdního podloží, hustoty osídlení a prostorových vztahů mezi jednotlivými komponentami, jako jsou například výšinné/opevněné polohy, rurální sídliště nebo depoty. Míra intenzity osídlení je srovnávána především mezi únětickou kulturou a věteřovskou skupinou.

Jednou z předestřených otázek je synchronní existence obou srovnávaných celků – únětické kultury a věteřovské skupiny (obr. 7). Při detailním sledování hustoty osídlení a výskytu památek té či oné kultury je zřejmé, že existují oblasti, ve kterých téměř neevidujeme doklady věteřovských aktivit, případně jsou velmi marginální. Takovým příkladem je oblast Brna a region

východně od něj až po Vyškovskou bránu (obr. 7 – I). Není vyloučené, že přinejmenším v této oblasti mohla únětická kultura koexistovat s jižněji situovanou věteřovskou skupinou po relativně dlouhou dobu. Na základě některých mikroregionů, které se v rámci sledované oblasti díky analýze intenzity archeologických nálezů vyseparovaly, lze pozorovat poměrně jasné koncentrace přítomnosti únětického osídlení (obr. 12). Tyto koncentrace mohou naznačovat určitou strukturu osídlení a představovat jádrové oblasti jednotlivých komunit. Především se to týká oblasti města Brna (64 km²), Blučiny (170 km²), Šlapanicka (125 km²), Újezdu u Brna (40 km²) a Horních Dunajovic (50 km²). Zde pro únětickou a v případě Blučiny (kde jsou jasné doklady únětické kultury i věteřovské skupiny) i věteřovskou komponentu vidíme poměrně jasnou koncentraci sídelních aktivit v rámci mikroregionů (obr. 12 – A1–A5). Vytyčený mikroregion na území Brna a druhý, který je patrný kolem Santonu, jsou odděleny i geomorfologickým zvlněním krajiny, kdy mírné hřebeny tvoří přirozenou bariéru mezi Brnem a oblastí na východ od něj. Ačkoliv jde o velmi dobře prozkoumanou oblast, kde je známa celá řada dokladů přítomnosti únětické kultury, je zde objektivně možné vymezit úzký dělicí pás mezi dvěma mikroregiony s minimem archeologických nálezů, datovatelných do starší doby bronzové. Podobné je to i v případě Blučiny a oblasti kolem Újezdu u Brna (obr. 12 – A1–A5). Samostatně vymezenou enklávu vůči Znojmu, ze kterého známe doklady únětického i věteřovského osídlení, představují Horní Dunajovice, kde sledujeme výraznou koncentraci únětických památek, ale takřka postrádáme doklady věteřovských aktivit (obr. 7 – C, G; 12 – B, C).

Jediný dobře prozkoumaný příklad sídelní struktury v rámci jedné organizační jednotky je znám z Benta Valley v Maďarsku; má rozlohu 50 km² a je definován geograficky (Earle, Kristiansen eds. 2010, 86). V prostoru jižní Moravy možnost definovat nějaký mikroregion geograficky postrádáme. Z toho důvodu vznikl tento článek jako možná alternativa pro vymezení oblasti ovládané v rámci jedné komunity na základě prostorové distribuce

nálezů jednotlivých kultur. Zjištěná data poskytují možnost studia úrovně sociální organizace a struktury společnosti ve starší době bronzové. Na modelovém příkladu z Maďarska figuruje opevněná lokalita nebo lokality v kombinaci s většími i menšími rurálními sídlišti, to dohromady tvoří předpokládaný organizační celek – duální uspořádání (Earle, Kristiansen eds. 2010, 72–75). V našem prostoru postrádáme tak klíčovou dopravní tepnu jako je Dunaj, která zcela jistě podobu osídlení a jeho strukturu v Benta Valley do značné míry formovala. Pokud bychom chtěli v případě Moravy uvažovat o podobném duálním modelu potenciální centrální lokality obklopené rurálním zázemím, nabízí se Blučina, eventuálně Znojmo. To by platilo jak pro únětickou, tak věteřovskou složku. Jen pro únětické osídlení by model s výšinnou/opevněnou polohou připadal v úvahu v oblasti kolem Tvarožné-Santonu, eventuálně Bučovic-Maref. Pokud bychom připustili souběžnou existenci věteřovských a části únětických lokalit, pak by nejzajímavějšími centrálními lokalitami byly Budkovice, obklopené osídlením v oblasti Moravského Krumlova a Ivančicka, a oblast Nových Hor u Věteřova, obklopená Kyjovskem a osídlením v oblasti jižně od Žďánického lesa. Vše výše uvedené je jen prvním návrhem a pokusem o řešení dynamiky vývoje společnosti ve starší době bronzové na území Moravy a bude nutné dané hypotézy testovat pomocí dalších analýz (v procesu je analýza distribuce kamenné štípané industrie pro studium regionálních vazeb a analýza keramické produkce zaměřená na mikroregiony).

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