

## The Late Migration Period Cemetery at Drnholec (Břeclav District, Czech Republic)

Pohřebiště z konce doby stěhování národů z Drnholce (okres Břeclav, ČR)

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*The authors present part of a burial ground of the Late Migration Period in Drnholec - Pod sýpkou (Břeclav district, Czech Republic), where seven graves were discovered in 2016 and 2017. The grave goods were identified, by typological analysis, as Langobardian/Lombardian. The authors argue that even a small part of a cemetery with a limited number of graves can bring important new data and open strategic questions, challenging traditional interpretations. The paper aims to present the results of excavation in the light of archaeological, anthropological and zooarchaeological perspectives. Archaeological part is focused on presenting the grave units and the cemetery as a contextual unit. Stylistic and typological analysis of grave goods, radiocarbon dates and probability modeling were used to establish the chronology of the cemetery. Anthropological and palaeopathological examinations were accompanied with buccal dental microwear analysis and tooth cementum annulation (TCA) which provide information about diet and age-at-death estimation. Zooarchaeological analysis was mainly driven by the find of a mule skeleton. In addition to skeletal expertise, Nitrogen and Carbon stable isotopes analyses were also applied. The authors set out their thoughts, based on material and bibliographical study, on the problem of classifying and understanding the cultural and ethnic identity of the Migration Period populations.*

Migration Period – Langobards – physical anthropology – paleopathology – Drnholec – burial ground – radiocarbon dating – dental microwear

*Autoři prezentují část pohřebiště pozdní doby stěhování národů z Drnholce, z polohy Pod sýpkou (okr. Břeclav), kde bylo v letech 2016–2017 prozkoumáno 7 hrobů. Hrobová výbava byla typologicky přiřazena langobardské kultuře. Autoři argumentují, že i výzkum pouze části pohřebiště o malém počtu hrobů může přinést nová důležitá data a otevřít strategické otázky týkající se tradičních přístupů. V článku předkládají výsledky terénního výzkumu podrobené archeologickým, antropologickým a zooarcheologickým analýzám. Archeologická část je zaměřena na prezentaci hrobových celků a pohřebiště jako kontextuálního celku. Pro stanovení absolutní chronologie pohřebiště byly použity stylistické a typologické analýzy a modelace radiokarbonových dat. Antropologické a paleopatologické analýzy byly doplněny o analýzu bukálních dentálních mikroabrazí a analýzu přírůstků zubního cementu (TCA) pro získání informací o stravě a pro přesnější odhad věku pohřbených jedinců. Zooarcheologické analýzy byly zaměřeny hlavně na nález téměř kompletní kostry muly, která byla podrobena analýzám stabilních izotopů dusíku a uhlíku. Autoři dále předkládají své názory vyplývající ze studia materiálu a bibliografie, které se týkají problému klasifikace a chápání kulturní a etnické identity populací doby stěhování národů.*

doba stěhování národů – Langobardi – fyzická antropologie – paleopatologie – Drnholec – pohřebiště – radiokarbonové datování – mikroabrazie zubů

### Introduction

*‘The history of Lombards is somewhat complicated and yet to be fully understood.’*

*Kaizer et al. 2019*

‘Everything looks crystal clear’ could be postulated and even presented without reservation: a few graves in a traditional habitation zone of south Moravia; the average to poor grave equipment consisting of artefacts broadly typical of those traditionally accepted as Langobardian, of the Migration period, phase 4–5, as defined by *Tejral (2005; 2007)*, or phase E2 after *Droberjar (2008)*, or early

Merovingian period to correspond with Bohemia and more western regions (*Tejral 2016*). But, on analysing this archaeological set, we perceived how topical, and even urgent, is a discussion about the definition and understanding of ‘typological’ artefact groups, extending into discussion about archaeological cultures, ancient nations (or tribes in this case), and identities in general. We aim to add to such discussion, convinced that the use of multiple and varied research methods is crucial.

At the outset, it is necessary to clarify the use of some terms. Particularly, the translation of the traditional

terms, originating in Latin sources, into English needs to be explained. Across the bibliography we can meet both varieties, Langobards and Lombards (even for one cemetery: Langobards – *Vida et al. 2017*, Lombards – *Alt et al. 2014*). Some authors tend to use the term Langobards for those living before the tribe move to Lombardy (A.D. 568). We use the term Langobards because it is closer to the Central European *usus* and tradition, while *Langobardi* is the Latin name, used in Roman sources, and Lombards is a later (8<sup>th</sup> century) abbreviation. It is also a reminder that we do not speak about populations of the Early Medieval Lombardian kingdom.

It is not possible to clearly identify and define relatively basic aspects, including their origin and ethnogenesis (*De Vingo 2008*, 277), ethnicity, intro- or extroversion of their societies, or what happened to the remainder after a significant part of them moved from Pannonia (A.D. 568), etc.

Although it may not seem so at first glance, the period of their presence in central Europe also remains somewhat obscure. Thanks to a rich history of field activities and meticulous systematic scholarship (for history of research see *Droberjar 2013*, 165–166), the typochronological scales are elaborate and detailed. The problem is not the material culture, its changes in space and time, but the question of how important the mortuary material culture is for the Langobardian identity? What chronological potential and accuracy does it have? Given the anthropological data, how does it express gender issues? How does it mirror social status? All these questions are part of a much more general historical question about the region, the period and beyond, to which we (as scientists/scholars) should eventually direct our attention.

We have, therefore, selected a combination of methods, as a starting package: 1. Analyses of material culture with an accent on chronology and relations with other regions; 2. Radiocarbon dates; 3. Anthropological analyses, particularly of health conditions, dietary customs and the social composition of the society, which contribute to understanding how a society functions; 4. Zoological analyses, in particular, augment the social studies.

A number of other detailed findings were obtained by multiple analyses. Many other questions were opened up as the study progressed and, after the initial sharing of the primary results, the team is determined to conduct further analyses of the cemetery, some of which are already in process.

The topic of Langobardian identity has usually been approached by efforts to solve the problem of their passage through the continent; in the region of our interest, the question of how the Langobards got into the area of the Middle Danube region has not been resolved archaeologically. There are two main theories, accenting continuity or discontinuity of the Lombards' movement. According to the researchers arguing for discontinuity, the Lombards reached the central European regions in two waves. The first one was the shift of Thuringians, a tribe related to Langobards which followed. The direction of their movement and mechanics of their expansion (as it has been defined according to material cul-

ture) are still under intensive discussion. In one opinion, their passage through Saxony and Bohemia was directed to Moravia, where they settled (*Droberjar 2005*, 160–161). Another opinion is that Langobards had settled in Rugiland first, and it was only after the period of stabilization there that their expansion moved north to Bohemia and Northern Moravia. Southern Moravia was part of Rugiland (*Tejral 1993*, 494; *Svoboda 1965*, 9–10). The theory of the continuity of habitation in 5<sup>th</sup> century Moravia must also be mentioned. This is not held by a large part of academia but it is argued that it is possible to observe continuity of the population in Moravia since the mid-5<sup>th</sup> century, when the groups, which were identified as Langobards by their material culture, were concentrated here (*Bemmann 2008*; *Tejral 2012a*; *2012b*). From Moravia, they (or part of them) moved towards Rugiland, which is understood as the region of Lower Austria, Southern Moravia and part of the Pannonian Lowlands (*Werner 1962*).

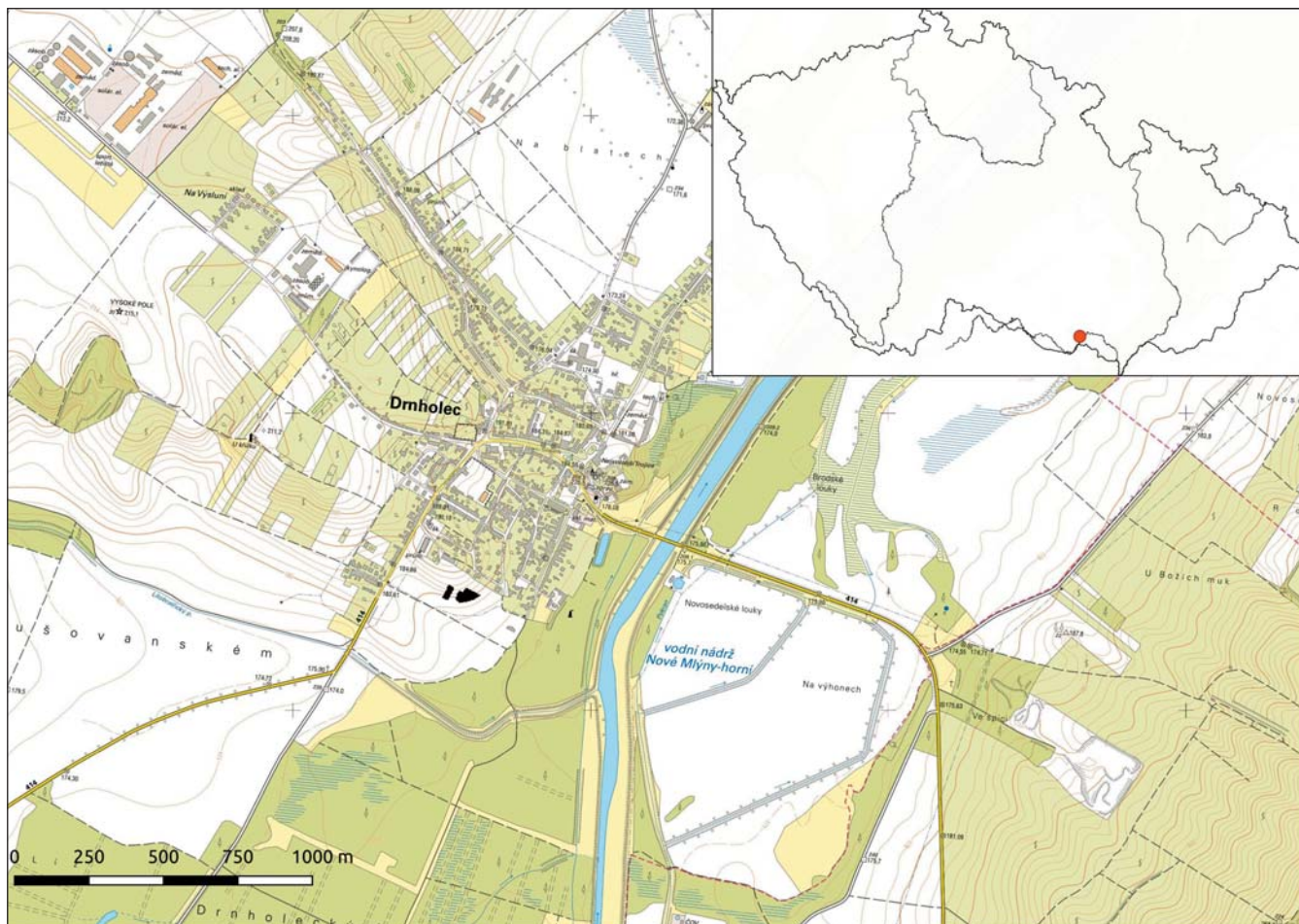
The main problem, we face, is the identification of Langobards on the basis of material culture, the emphasis on their continuous and discontinuous elements and the distinction between the development of material culture and imported innovations. Another extremely problematic area seems to be the effort to parallel archaeological sources with literary ones which are often simplified and then treated as a “police report” although all available texts are of later date, and originated in different conditions and regions (*Heath 2017*, 15–16). They bear all the specific hallmarks of early medieval literary traditions (*Goffart 1988*, 329 onwards; *Wyckham 1989*, 29).

It follows from the above that general agreement does not exist and the questions of identity, movement process, and those which arise therefrom (language, power, social and economic structures etc.) remain open and not satisfactorily resolved. Currently, the best results come from interdisciplinary approaches combining more methods, from traditional archaeological analyses up to scientific methods such as aDNA analyses, isotope analyses, etc. (*Lužice – Klanica – Klanicová 2011*; *Rusovce – Schmidtová – Ruttkay 2008*; *Hegykö – Bóna – Horváth 2009*; *Szólád – Alt et al. 2014*; *Vida et al. 2017*).

In Drnholec, a small number of graves was studied (7 graves), which may appear insignificant when compared with large necropoles such as Holubice (105 graves, *Tejral 2011*), or one of the most recently examined near Kyjov (240 graves, *Šmerda 2011*). However, even a limited number of graves can bring important results of remarkable significance and can shift the direction of archaeological research to new perspectives by pointing out hitherto unstudied, unexplored connections and variables. In the case of Drnholec cemetery, the aim is to bring together various disciplines (archaeology, anthropology, paleopathology, zooarchaeology, radiocarbon dating) in order to answer questions defined above.

## Drnholec - Pod sýpkou: site description

Excavation of part of the Langobard cemetery was carried out in connection with the construction of family



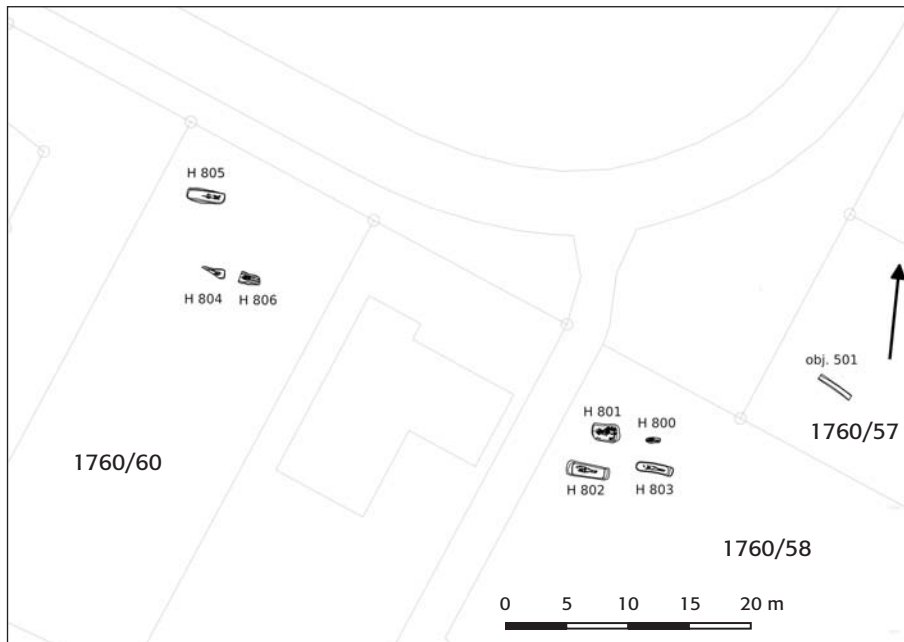
**Fig. 1.** Drnholec - Pod sýpkou. Location of plots with contexts of the Migration Period. — **Obr. 1.** Drnholec - Pod sýpkou. Lokalizace parcel s nálezy z doby stěhování národů.



**Fig. 2.** Drnholec - Pod sýpkou. Overview of the archaeologically monitored construction projects: **olive green** – building ground with negative archaeological findings; **red** – buildings with positive archaeological record (the Migration Period); **purple** – buildings where no archaeological supervision was possible. — **Obr. 2.** Drnholec - Pod sýpkou. Přehled archeologicky sledovaných staveb: **olivová** – stavby s negativními archeologickými nálezy; **červená** – stavby s pozitivními archeologickými nálezy; **fialová** – stavby bez archeologického dohledu.

houses in the area called Pod sýpkou (Fig. 1), which is a southern suburb of Drnholec. Archaeological supervision of the site began with a negative result in 2014

during the construction of utilities and roadway of the future Janečkova Street. Subsequently, inspections were carried out, when the construction of the houses



**Fig. 3.** Drnholec - Pod sýpkou. Spatial relationship of graves within the excavated plots. Data source: <https://ags.cuzk.cz/av; 2/4/2020> (author F. Trampota). — **Obr. 3.** Drnholec - Pod sýpkou. Prostorový vztah hrobů na dotčených parcelách. Zdroj dat: <https://ags.cuzk.cz/av; 2/4/2020> (autor F. Trampota).

started between 2015 and 2019 (Fig. 2), during which seven graves (Trampota 2018) were identified on two plots (No. 1760/58 and No. 1760/60), and a fraction of a shallow ditch/groove (Fig. 3) was captured on one plot (No. 1760/57). Other monitored plots were negative from the archaeological point of view, with some possible finds dated in the 20<sup>th</sup> century A.D. Unfortunately, two plots (No. 1760/59 and No. 1760/124) were built up without any archaeological supervision.

The site was unknown until its discovery. Except for the Migration Period objects, no other period's remnants were found. A Late Bronze Age settlement (Trampota 2016), which is located on a loess dune about 200 m south, was documented under the same name, Drnholec - Pod sýpkou. These two sites do not overlap, at least according to present knowledge.

## Environment

From the geomorphological point of view, the studied site is located on the edge of the Olbramovice Highland (Olbramovická pahorkatina in Czech), within the Dyje-Svratka Valley, which is a part of the Western Outer Subcarpathian system (Demek – Mackovčín 2006).

From the geological point of view, the site is characterised by tertiary marine clays of the Carpathian Fore-deep.

The site is located above the confluence of the Lito-bratřický creek and the Thaya (Dyje) river, at the foothill of a distinctive but nameless hill (summit: 192 m above sea level), on which a formidable Baroque granary stands. The elevation between the floodplain of Thaya and the hill is 20 meters high. The altitude of the archaeological site is about 184 meters above sea level.

The broader region is a traditional settlement area, used throughout prehistoric times and up to the present day.

## Method of excavation

The absence of more extensive topsoil removal made it impossible to identify the archaeological contexts on the surface and they were identified only during the foundation excavations for individual houses or, in some cases, within small scale topsoil removal. In the case of successful early identification of graves, the grave fill was examined in 20 cm thick layers down to the level of the coffin or skeleton. Subsequently, the situation was cleaned and photographically documented and the skeleton was then prepared. Documentation of the excavation process was photographic and photogrammetric using geodetic GPS for fixing photogrammetric points. Based on orthophotographic images, a digital graphic transcript of the finding situation was subsequently made. The longitudinal sections of the graves were documented in drawings. Finally, the bottom of the grave and space around the coffins were also examined, but other grave additions were rarely discovered there.

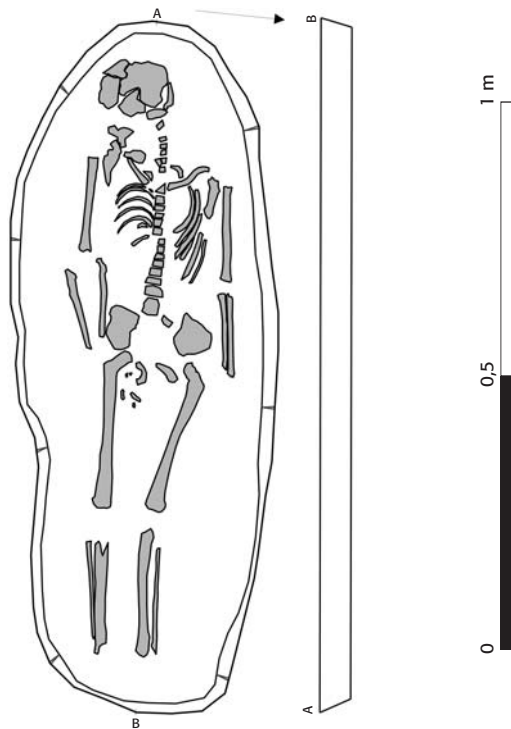
## Description of contexts on plot No. 1760/58

### Grave H 800 (Fig. 4, 5)

Dimensions: length 125 cm, width 150 cm, depth 10 cm from the level of previously excavated (due to construction) terrain, plus about 50 cm from the level of the natural original surface.

Grave pit shape: oval.

A child's skeleton was placed in a stretched position with arms along the body, without any signs of secondary mortuary practices and without grave goods. Coffin remains were not detected. Orientation of the longitudinal axis of the grave and the buried body: west-east.



**Fig. 4.** Drnholec - Pod sýpkou. Plan of grave H 800 (author F. Trampota).  
**Obr. 4.** Drnholec - Pod sýpkou. Plán hrobu H 800 (autor F. Trampota).

#### Grave H 801 (Fig. 6, 7, 8)

Dimensions: length 238 cm, width 47 cm, depth 120, resp. 136 cm from the level of removed soil, plus about 50 cm of natural original terrain.

The grave pit was irregularly rectangular with perpendicular walls and rounded corners. The bottom of the grave was 16 cm higher in the northern part than in the southern part with a sharp transition. Coffin remains were not detected.

The skeleton of a man in a stretched position with one hand along the body was recovered. In the original position only the lower limbs from knees to feet and left arm between the elbow and fingers were preserved. The rest of the skeleton was relocated due to secondary mortuary action. In particular, long bones, ribs, vertebrae, and mandible were found in the scrum of bones at the bottom of the grave, and the skull was found at the bottom of the secondary shaft fill.

Burned bones from another human individual were detected, mainly in the fill of the secondary shaft. Some were spilled into the grave, especially in the area which was affected by the later post-burial intervention.

The grave goods, found in their original position, include the skeleton of a juvenile mule that has been preserved almost completely, except for the skull and forelegs. Stratigraphically, the mule was placed in the grave above the buried man. Mule teeth were found on



**Fig. 5.** Drnholec - Pod sýpkou. Grave H 800, orthophotographic image (photo by F. Trampota). — **Obr. 5.** Drnholec - Pod sýpkou. Hrob H 800, kolmý snímek (foto F. Trampota).

the surface of the fill of the secondary shaft. It follows that originally the mule was buried intact, and disturbed by the later intervention into the burial. Furthermore, two iron buckles and a ceramic vessel were found in their original position.

The secondary shaft contained several displaced artefacts: fragments of a thin-walled vessel, fragments of the bottom of a larger vessel made of coarse gritty fabric, and two silicite flakes. Small ceramic fragments were found both in the fill of the secondary shaft and in the original grave pit's fill.

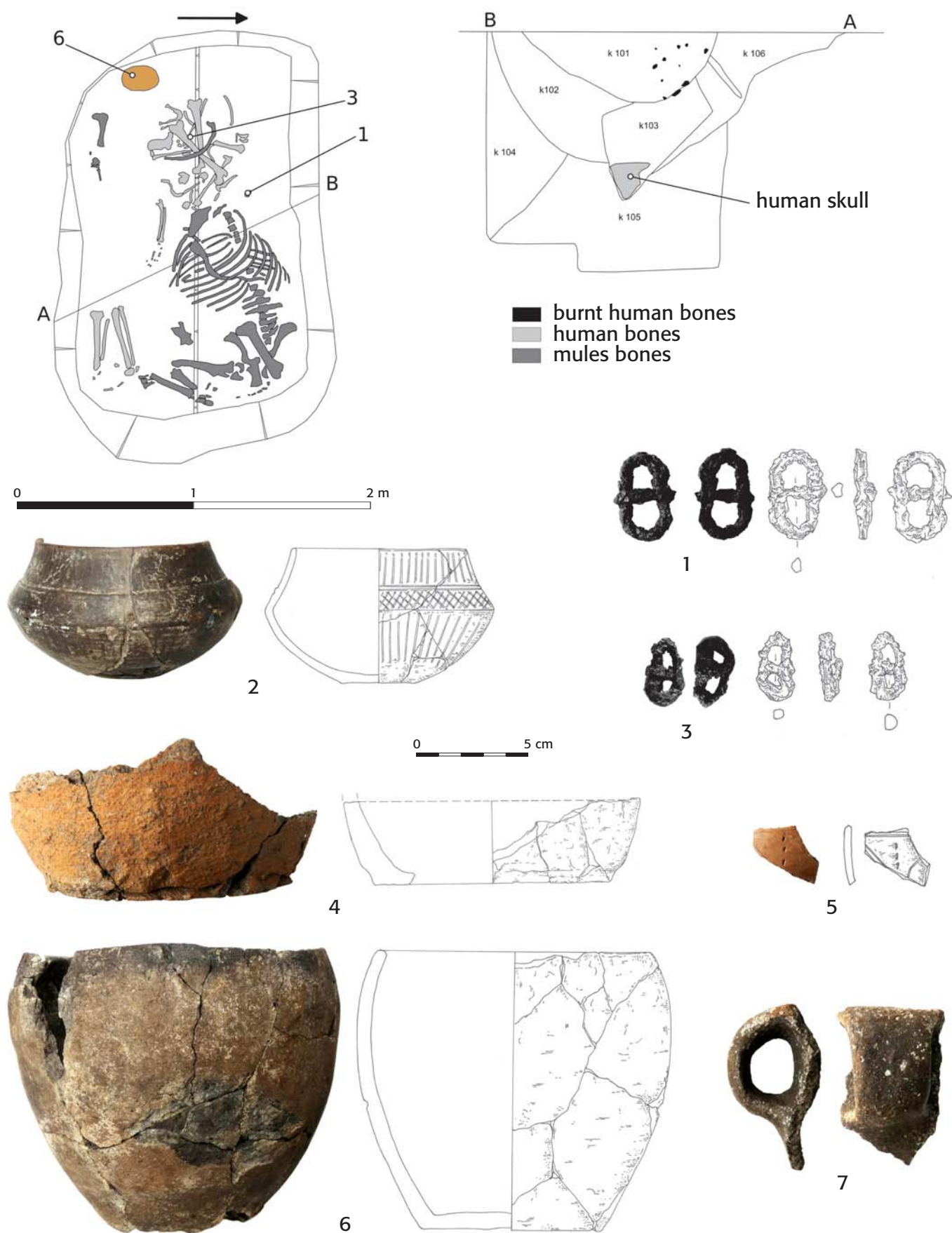
Orientation of the longitudinal axis of the grave and the buried bodies (both human and mule): west-east.

#### Grave H 802 (Fig. 9, 10, 11)

Dimensions: length 375 cm, at the bottom 336 cm, width 114 cm, depth 200 cm, from the level of natural terrain.

The grave pit was of approximately rectangular shape with perpendicular walls, the shorter walls were rounded, the bottom of the grave was flat, and two steps were created on one of the shorter sides of the grave. Two isolated burnt bones were found in the fill of the secondary shaft infill.

A female skeleton in a stretched position with arms along the body was recovered. The body was placed in a coffin. Almost the entire body except the cranial skeleton and several cervical vertebrae were preserved in



**Fig. 6.** Drnholec - Pod sýpkou. Grave H 801, plan and grave goods (drawings by Š. Trávníčková, photo and graphics by F. Trampota). — **Obr. 6.** Drnholec - Pod sýpkou. Hrobová výbava a plán hrobu H 801 (kresby Š. Trávníčková, foto a grafika F. Trampota).



**Fig. 7.** Drnholec - Pod sýpkou. Grave H 801, shot of buried mule, view from the east (photo by F. Trampota). — **Obr. 7.** Drnholec - Pod sýpkou. Hrob H 801, snímek pohřbené muly, pohled od východu (foto F. Trampota).

their original position. These were relocated as a result of secondary mortuary practice.

The grave goods found in the original position include the antler comb (under the right arm), a larger glass bead (at the left elbow), a bronze buckle (at waist area), a bronze knife, two bronze keys connected by an iron ring, and, finally, a round shaped bronze sheet.

A total of ten tiny glass beads were found in the relocated position. The original necklace was probably destroyed as a secondary grave intervention. Beads have been found in the neck area. Another larger glass bead was located between the body and the left arm.

Small ceramic fragments were found, both in the fill of the secondary shaft and in the fill of the grave pit itself.

Orientation of the longitudinal axis of the grave and the buried: west–east.

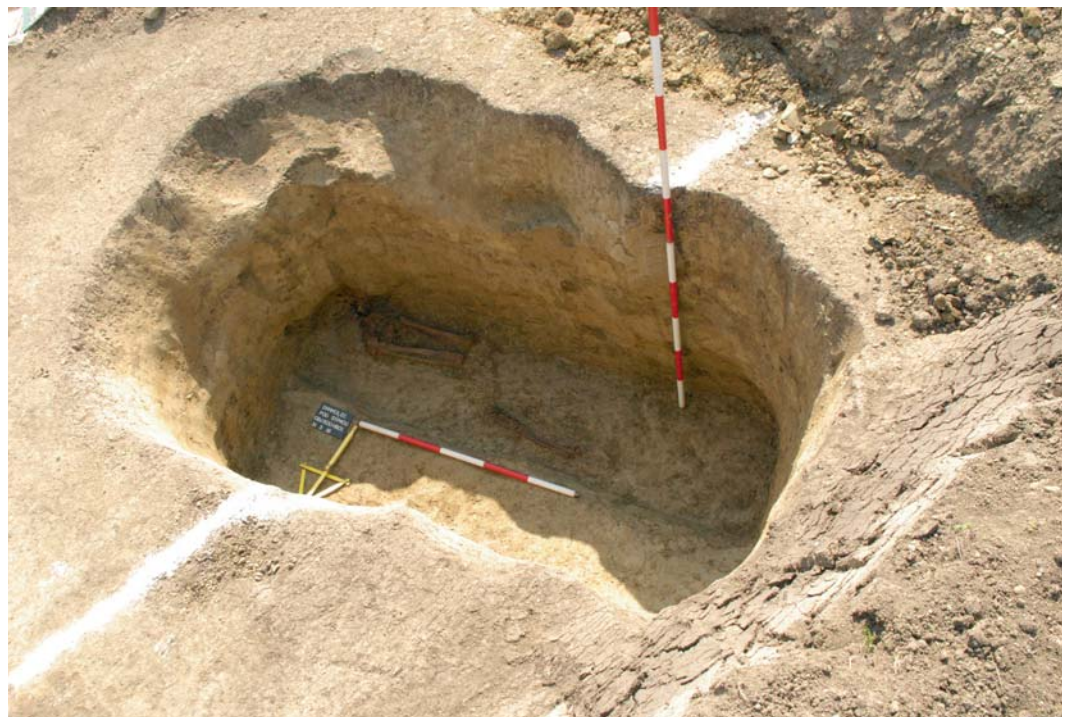
#### **Grave H 803** (Fig. 12, 13, 14)

Dimensions: length 323 cm, at the bottom 295 cm, width 84 cm, depth 130 cm, from the level of removed soil, plus about 30 cm of natural terrain.

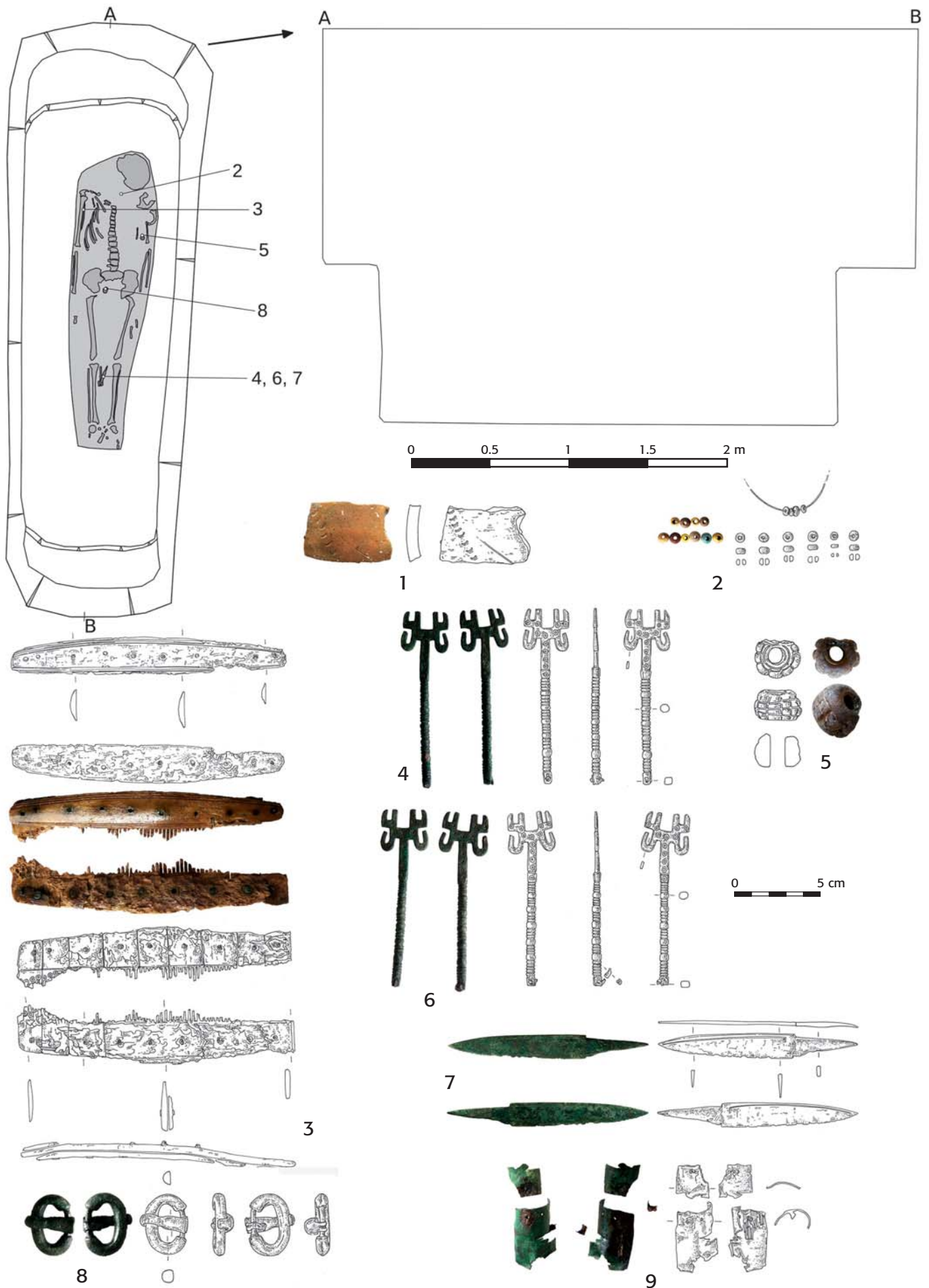
The grave pit was of approximately rectangular shape with perpendicular walls, the shorter walls were rounded and the bottom of the grave was flat. A small step was created in the grave area on the east (feet) site.

The skeleton of a man in a stretched position with hands along the body was recovered. The body was placed in a coffin.

Only limbs were preserved in their original position. From the torso only some of the ribs and vertebrae have been preserved; the pelvic bones were found in the thorax area. The cranial skeleton was not found at all.



**Fig. 8.** Drnholec - Pod sýpkou. Grave H 801, shot of the remains of a buried human body, view from the northwest (photo by F. Trampota). — **Obr. 8.** Drnholec - Pod sýpkou. Hrob H 801, snímek zbytků pohřbeného lidského těla, pohled od severozápadu (foto F. Trampota).







**Fig. 10.** Drnholec - Pod sýpkou. Grave H 802 with remains of a coffin, orthophotographic image (photo by F. Trampota). — **Obr. 10.** Drnholec - Pod sýpkou. Hrob H 802 se zbytky rakve, kolmý snímek (foto F. Trampota).

The secondary mortuary intervention targeted most of the grave, from head to pelvis.

On the right side of the head was placed an iron lance and above the right hand an iron sword with the remains of a wooden sheath. A chert flake, a curved iron object, and a fragment of an iron knife were found in the waist area. A composite antler comb was found in the place in skull area. Five iron rods were found at various locations around the coffin. Outside the coffin, in the space behind the head, was discovered a ceramic vessel, containing two fish vertebrae and small fragments of egg shells, which were concentrated in the top part of the vessel's fill.

Orientation of the longitudinal axis of the grave and the buried body: west–east.

### Description of contexts on plot No. 1760/60

#### **Grave H 804** (Fig. 15, 16)

Dimensions: length unreconstructable, width 80 cm, depth 60 cm, from the level of dredged terrain, plus approx. 60 cm natural terrain.

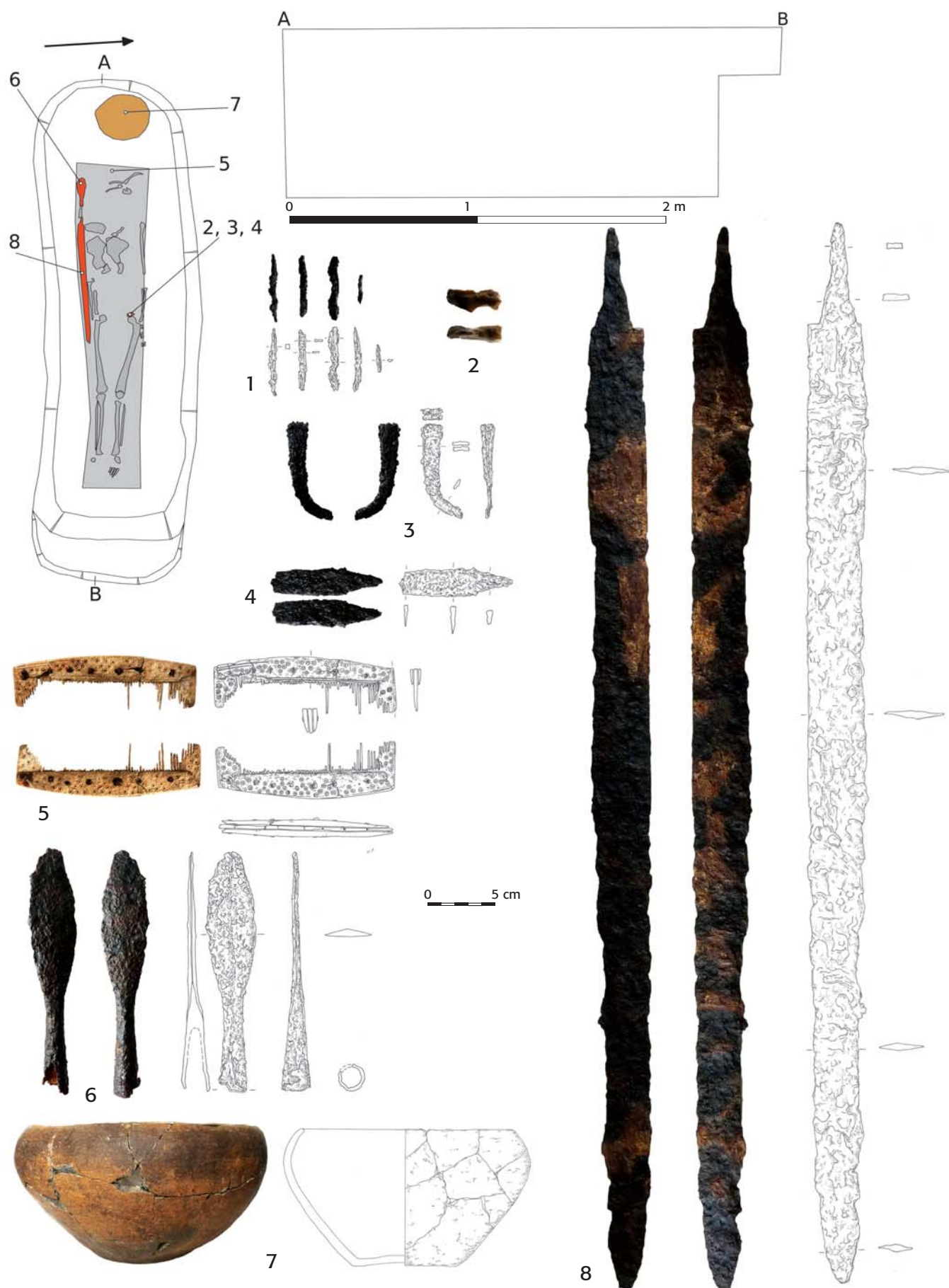


**Fig. 11.** Drnholec - Pod sýpkou. Grave H 802, orthophotographic image (photo by F. Trampota). — **Obr. 11.** Drnholec - Pod sýpkou. Hrob H 802, kolmý snímek (foto F. Trampota).

A female (?) skeleton in outstretched position with arms along the body was recovered. Coffin remains were not detected.

About half of the grave was destroyed during excavation of a cellar without archaeological supervision but

**Fig. 9.** Drnholec - Pod sýpkou. Grave H 802, plan and grave goods (drawings by Š. Trávníčková, photo and graphics by F. Trampota). — **Obr. 9.** Drnholec - Pod sýpkou. Hrobová výbava a plán hrobu H 802 (kresby Š. Trávníčková, foto a grafika F. Trampota).



**Fig. 12.** Drnholec - Pod sýpkou. Grave H 803, plan and grave goods (drawings by Š. Trávníčková, photo and graphics by F. Trampota). — **Obr. 12.** Drnholec - Pod sýpkou. Hrobová výbava a plán hrobu H 803 (kresby Š. Trávníčková, foto a grafika F. Trampota).



**Fig. 13.** Drnholec - Pod sýpkou. Grave H 803, view from the east (photo by F. Trampota). — **Obr. 13.** Drnholec - Pod sýpkou. Hrob H 803, pohled od východu (foto F. Trampota).

potential grave goods and missing parts of the skeleton were not found in the removed soil.

Limb bones were found in original position, torso and pelvis bones were removed by secondary intervention into the grave.

The grave area around the head was destroyed by the construction excavation. The only find is an iron rod found in the feet area.

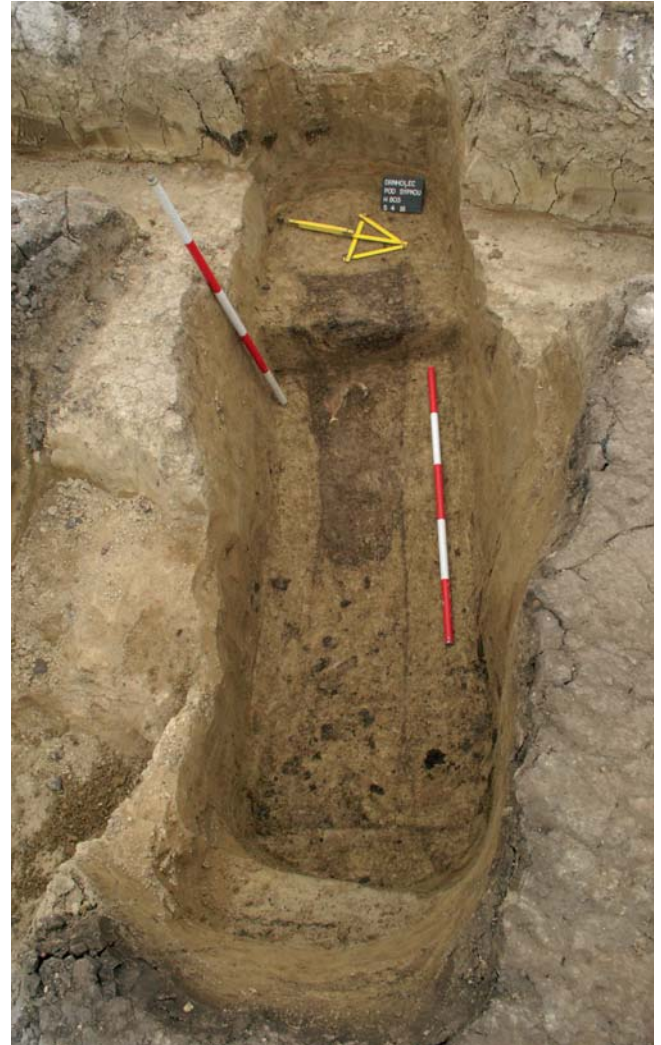
Orientation of the longitudinal axis of the grave and the buried body: west–east.

#### **Grave H 805 (Fig. 15, 17, 18)**

Dimensions: length 330 cm, width 96 cm, depth 100 cm, from the level of removed terrain, plus approx. 60 cm of natural terrain.

The skeleton of a woman in a coffin was recovered. The body position couldn't be reconstructed due to total secondary skeleton manipulation.

Grave goods, perhaps in their original position, are a bronze buckle and a small decorated fragment of an unidentifiable bronze artefact. Both the grave fill and



**Fig. 14.** Drnholec - Pod sýpkou. Grave H 803, remains of coffin and secondary mortuary intervention, view from the east (photo by F. Trampota). — **Obr. 14.** Drnholec - Pod sýpkou. Hrob H 803, pozůstatky rakve a sekundární hrobového zásahu, pohled od východu (foto F. Trampota).

the secondary mortuary intervention fill contained small pottery fragments.

Orientation of the longitudinal axis of the grave: west–east.

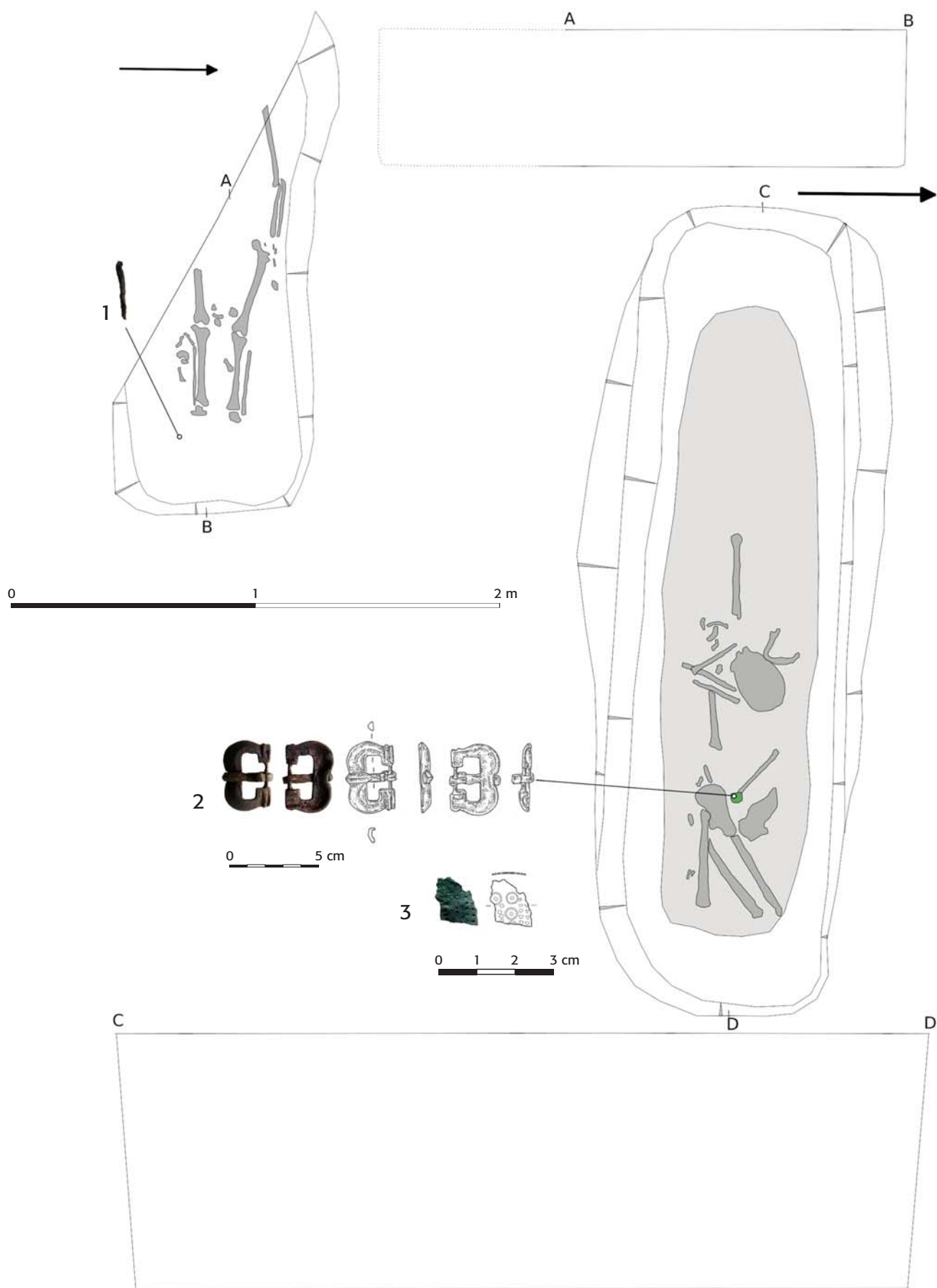
#### **Grave H 806 (Fig. 19, 20)**

Dimensions: length more than 180 cm, width 72 cm, depth 60 cm, from the level of removed terrain, plus approx. 60 cm of natural terrain.

The skeleton of a man in a stretched position with arms along his body, placed in a coffin, was recovered. The burial is without secondary intervention. Part of the grave pit in the area behind the head of the buried body was destroyed during the construction without archaeological supervision.

The grave goods consist of a bone or antler buckle found in the waist area and fragments of an iron object, probably a knife, found between the left arm and the torso.

Orientation of the longitudinal axis of the grave and the buried body: west–east.



**Fig. 15.** Drnholec - Pod sýpkou. Plans and grave goods of the graves H 804 (top-left) and H 805 (bottom-right). Drawings by Š. Trávníčková, photo and graphics by F. Trampota. — **Obr. 15.** Drnholec - Pod sýpkou. Hrobová výbava a plány hrobů H 804 (vlevo nahoře) a H 805 (vpravo dole). Kresby Š. Trávníčková, foto a grafika F. Trampota.



**Fig. 16.** Drnholec - Pod sýpkou. Grave H 804, view from the east (photo by F. Trampota). — **Obr. 16.** Drnholec - Pod sýpkou. Hrob H 804, pohled od východu (foto F. Trampota).

## Description of context on plot No. 1760/57

### Feature Obj. 501 (Fig. 21)

The feature was detected in the profile of the foundation pit after the concrete for the construction was spread. In agreement with the builders, however, it was possible to recover part of the context to a length of 320 cm.

It is a linear structure (ditch) with a rounded bottom, 50 cm wide. In the overlying layers with a thickness of about 30 cm, the groove was unrecognisable. The context fill contained two small undecorated ceramic fragments, the fabrics of which do not contradict dating into the Migration Period.

## Typochronological artefactual analysis

Grave goods (*Tab. 1*) are presented in groups according to material and artefact types. The introductory part about ceramics is followed by an overview of personal items (beads, 'keys', combs, knives, buckles), weapons and finally unclassifiable fragments (miscellanea).



**Fig. 17.** Drnholec - Pod sýpkou. Grave H 805, coffin remains, view from east (photo by F. Trampota). — **Obr. 17.** Drnholec - Pod sýpkou. Hrob H 805, pozůstatky rakve, pohled od východu (foto F. Trampota).

## Pottery

Ceramic vessels and their fragments were present in five graves: H 801, H 802, H 803, H 805 and H 806. But only three of them: graves H 801, H 802, and H 803 provided pots, which can be evaluated. The richest set of vessels was found in grave H 801.

The only vessel made on a potter's wheel is a characteristic Thuringian bowl (*Fig. 6: 2*), form 2 after Hansen (2004, 91–92). The closest parallels are finds from Lochenice I (but there without the burnished vertical bands in the lower part of the vessel, Zeman 1990, Abb. 28: 1) and from Unterrohrendorf, grave 2 and Maria Ponsee, grave 81 (Friesinger – Kerchler 1981, Abb. 42: 2, 4).

The hand made pottery comprises a jar with slightly inside everted rim (*Fig. 6: 6*) again from grave H 801, and a bowl with inside everted rim (*Fig. 12: 7*) from grave H 803. The surface of both vessels is roughly smoothed, without any decoration. Both specimens represent typical Elbe-German pottery, numerous examples of which are often found in Langobardian cemeteries of the Middle Danube region (Šmerda 2013, 273), but also in settlement context, e.g. features 68 and 72 in Březno u Loun (Pleinerová 2007, Taf. 34: 2; 39: 1).



**Fig. 18.** Drnholec - Pod sýpkou. Grave H 805, view from east (photo by F. Trampota). — **Obr. 18.** Drnholec - Pod sýpkou. Hrob H 805, pohled od východu (foto F. Trampota).

All other ceramic material is fragmentary. From grave H 801 comes a fragment of the base of a thick walled handmade vessel and a grooved body sherd. The grooves perhaps formed a triangle filled with typical wedge-shaped gouges. Another fragment from grave H 802 bears decoration of short parallel grooves.

The last diagnostic fragment comes from grave H 801. It is a strap handle fragment of a jug/mug (Fig. 6: 7). The handle was attached to the lip. Jugs or other handled vessels are rather exceptionally present in grave goods assemblages. Although the shape is more massive, the closest parallel seems to be a vessel from Pottenbrunn, a shorter, roughly shaped jar (Blesl 2008, 320, Abb. 7), which however corresponds rather with provincial traditions (Neugebauer 2005, 323). In the Pannonian region, we can find close examples as well. A hand made jug with a handle attached to its lip was found, among other vessels, in grave 33 at Szentendre cemetery. This vessel is much more massive and rougher (Bóna – Horváth 2009, 108, Taf. 42: 13).

All vessels, on macroscopic examination, seem to be made from identical fabrics. The clay is tempered with fine inclusions of white, buff, and gray quartz, mica schist flakes and, occasionally, brown rounded inclusions are visible. Inclusions are well sorted and mixed into the matrix. Even the vessel shaped on a potter's wheel seems to be made from the same clay, though the inclusions are smaller and finer. The fabric corresponds well with the local geology.

### Beads

A total of 11 glass beads were obtained, all of them come from grave H 802. Ten of them are small rounded glass beads (Fig. 9: 2) of various colours (blue, beige, yellow and dark wine red), 5–6 mm in diameter. One larger almost barrel shaped bead (25 mm in diameter) bears significant transverse and less significant longitudinal straight grooves (Fig. 9: 5).

Small beads are perhaps the most frequently represented type of beads in Langobardian cemeteries of the Middle Danube area. Larger and specially grooved ones are much rarer and usually only one is present in a grave. The combination of a number of small beads with one larger bead was identified on several sites in Moravia, Lower Austria, and Hungary. They probably belonged to one piece of jewelry. The closest parallels to the Drnholec H 802 set, are provided by grave 44 in Lužice (Klanica – Klanicová 2011, 249, Taf. 46: 44; 1) and grave 73 in Bezenye (Bóna – Horváth 2009, Taf. 1: 73).

According to the analysis of the burial grounds in Weingarten and Eichstetten in south-western Germany, the combination of beads found in Drnholec corresponds to group B in terms of shape and color spectrum (Sasse – Theune 1996, 221, Abb. 12). Chronologically, the authors define this group between 490–530 (Sasse – Theune 1996, 221).

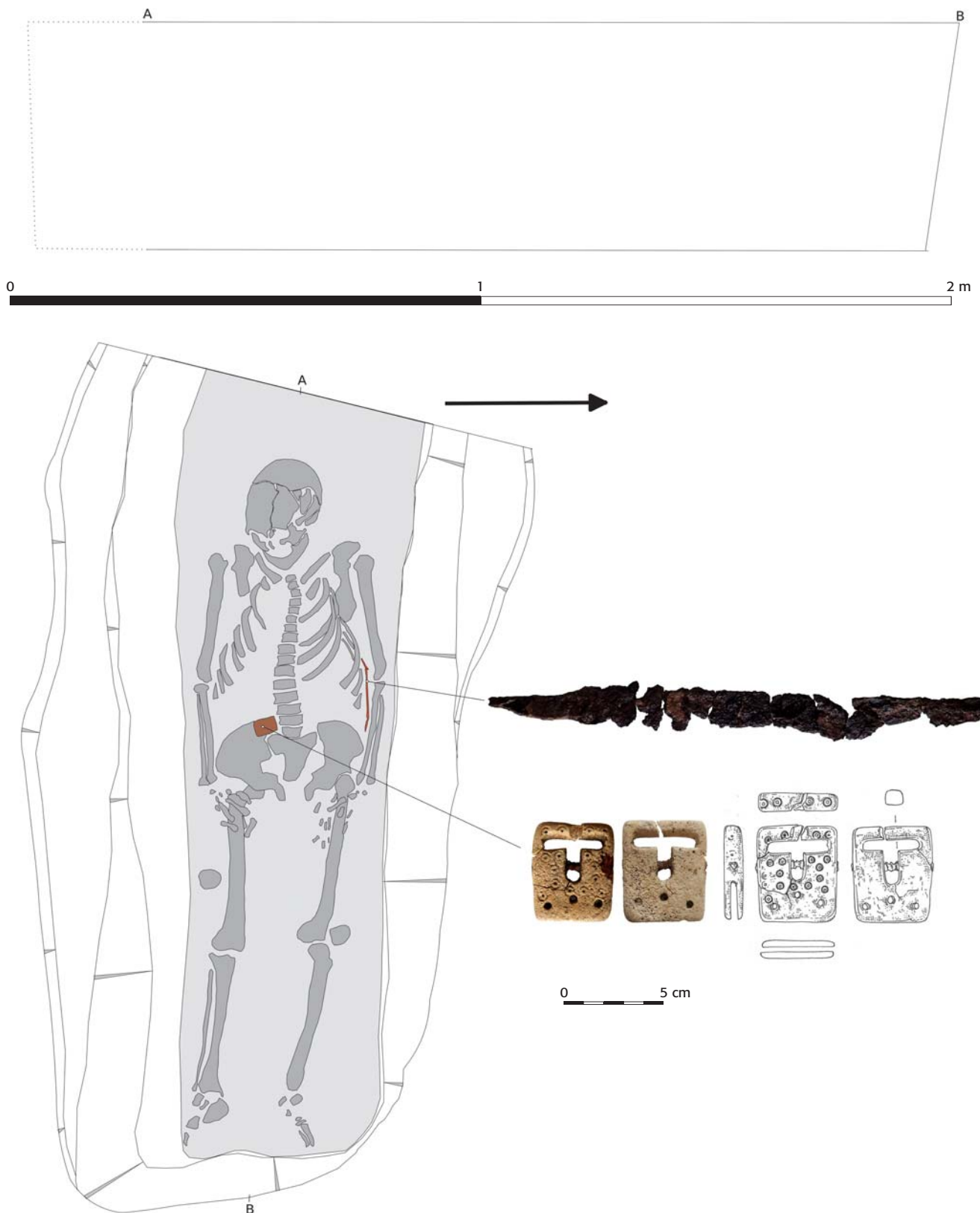
This conclusion is confirmed by the analysis of beads from the burial ground in Horb-Altheim by D. Beilharz. The combination of small opaque beads in the predominant yellow and red-brown color and ribbed melon-shaped beads is typical here for phase 4 (Perlenstufe 4), dated to the range 500/510–520/530 (Beilharz 2010, 63, Abb. 27, 35, Taf. 32).

### 'Keys'

Two bronze 'keys' were found in grave H 802 (Fig. 9: 4, 6). Residual iron corrosion is visible in the holes of their handles, which were originally connected by an iron ring. The keys are decorated with transverse grooves and patterns of punched rings with a dot in the center.

An exact parallel is provided by the 'keys' from grave 95 at Lužice (Klanica – Klanicová 2011, 288, Taf. 73: 15, 16). The concordance of shape, decoration, and length of items from both sites is so close that it allows for the possibility that all were cast from one mold.

The presence of 'keys' accompanying a female burial is a normal occurrence. Bronze 'keys' are mainly connected with burials of women of various ages as shown in Tab. 8.



**Fig. 19.** Drnholec - Pod sýpkou. Grave H 806, plan and grave goods (drawings by Š. Trávníčková, photo and graphics by F. Trampota). — **Obr. 19.** Drnholec - Pod sýpkou. Hrobová výbava a plán hrobu H 806 (drawings by Š. Trávníčková, photo and graphics by F. Trampota).

### Combs

Two bone combs were found in two graves (H 802, H 803). In both cases, these are three-part, one sided combs

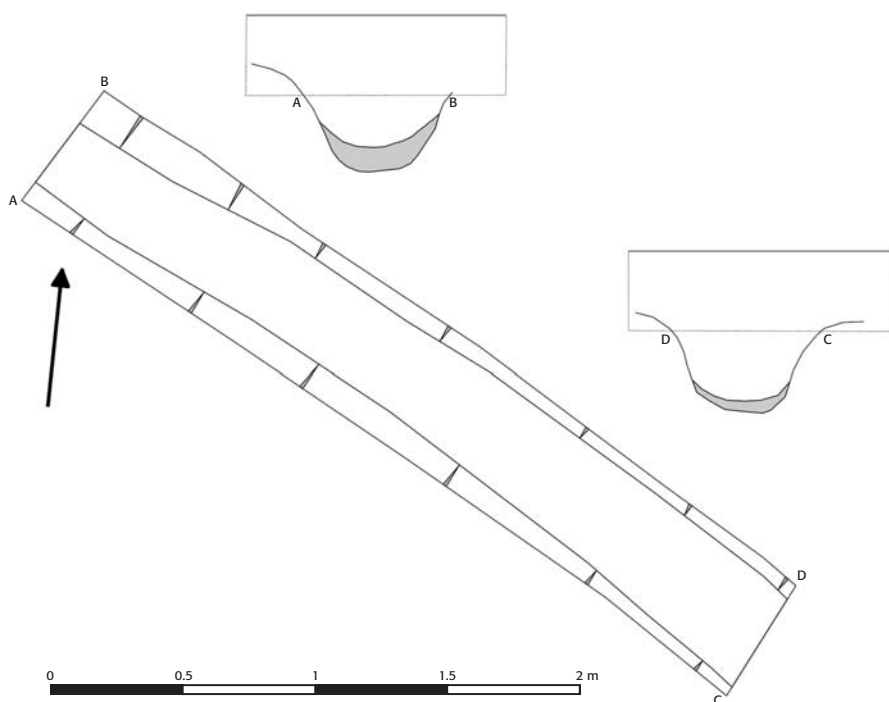
with elongated, arched handles which are common in early Merovingian cemeteries from central Germany to Hungary. The combs thus differ from each other only in size and decoration.



**Fig. 20.** Drnholec - Pod sýpkou. Grave H 806, view from east (photo by F. Trampota). — **Obr. 20.** Drnholec - Pod sýpkou. Hrob H 806, pohled od východu (foto F. Trampota).

The item from grave H 802 (Fig. 9: 3) is decorated with a triple groove along the long sides of the outer cover sheet of the handle. The coversheet was fixed by ten bronze rivets and survived on one comb's side only. Both ends of the toothed part of the comb were then decorated with several engraved rings with a dot in the middle. Parallel specimens were found in the Lower Austrian cemetery in Straß (Adler 1978, 35–36, Taf. 24: 1). Many other similar combs are decorated only with longitudinal engraved lines on the combs' handles and lack engraved decoration of their toothed parts, such as those from the cemeteries of central Germany: Seeburg, Kr. Eisleben (Schmidt 1961, Abb. 7: C–G), Obermöllern, Kr. Naumburg (Schmidt 1961, Taf. 57: A, B), from Langobardian cemeteries in Bohemia, i.e. Lochenice (Zeman 1990, obr. 35: 18, 38: 6), Záluží u Čelákovice (Svoboda 1965, obr. CIII: 6, CVII: 5), from Moravia, i.e. Borotice (Stuchlík 2011, Taf. 2, grave 9/IV; Taf. 4, grave 13/X), Holubice (Čižmář 2011, Taf. 15, grave 46), Lužice (Klanica – Klanicová 2011, Taf. 63, hrob 71; Taf. 64, hrob 83), Šakvice (Tejral 1976, Abb. 18: 11), from Lower Austria: mainly in Aspersdorf (Adler 1978, Taf. 10: 5), in Hollabrunn (Adler 1978, Taf. 18: 4, 5), in Schwechat (Adler 1980, Taf. 5: 2), and in Straß (Adler 1978, Taf. 21: 9, 24: 1), and from Hungary, with many similar finds mainly from Tamás (Bóna – Horváth 2009, Taf. 62: 13-1, 64: 20-3, 66: 24-4, 70: 40-4, 73: 35-2, 76: 53-2, 79: 52-1). Decoration of many examples cannot be reconstructed due to their poor state of preservation.

The comb from the grave H 803 (Fig. 12: 5) does not differ in shape but bears somewhat richer decoration. It is decorated with a multiple grooved line along the longer side of the handle and engraved circles with a dot in the middle at the end of the toothed part, the same as that on the previously mentioned comb. The surface of the handle is covered with punched circles arranged in triangles built on the tip and placed between the in-



**Fig. 21.** Drnholec - Pod sýpkou. Plan of shallow ditch (feature 501) on plot No. 1760/57 (author F. Trampota). — **Obr. 21.** Drnholec - Pod sýpkou. Plán mělkého žlábků (obj. 501) na parcele 1760/57 (autor F. Trampota).



Inventory number	Subject	Nb of pieces	Material	Grave	Context	Depth (m)	Mass (g)	Length x width x thickness (cm)	Figure
A 86571		1	pottery	H 801	secondary shaft	0–0.2	56	6.7 x 4.4 x 3.6	6: 7
A 86572	Fragment of a vessel rim (medium to coarse fabric with white angular inclusions, fine silver mica schist; colours: surface in and out 7.5YR 5/4 brown, surface out 5YR 5/1 gray – 4/1 dark gray)	1	pottery	H 801	secondary shaft	0–0.2	6		
A 86573	Fragment of a vessel neck (medium to coarse fabric with white – reddish inclusions, fine silver mica schist inclusions; colours: surface out 7.5YR 5/4 brown, surface in 10YR 4/3 brown, sherd 10YR 3/1 very dark gray – 2/1 black)	1	pottery	H 801	secondary shaft	0–0.2	14		
A 86574–86577	Body sherds (coarse fabric with white angular inclusions, rich in silver mica schist, flakes up to 1 mm in size; colours: surface in and out 7.5YR 5/6 strong brown, sherd 10YR 5/2 grayish brown)	4	pottery	H 801	secondary shaft	0–0.2	7+5+8+6		
86578	Course fabric: white angular inclusions, rich in mica, flakes up to 1 mm. Colours: surface in and out: 7.5YR 5/6 strong brown, sherd 10YR 5/2 grayish brown	9	pottery	H 801	secondary shaft	0–0.2	16		
A 86579–86580	Fragment of a vessel bottom (medium to coarse fabric, angular white and gray inclusions, occasionally up to 1 mm in size, silver mica schist flakes; colour all over: 10YR 5/3 brown – 10YR 4/1 dark gray)	2	pottery	H 801	secondary shaft	0–0.2; 0.2–0.4	137+22		
A 86581	Tiny pottery fragments	1	pottery	H 801	secondary shaft	0–0.2	14		6: 4
A 86582	Part of massive blade or flake, burnt	6	pottery	H 801	secondary shaft	0.2–0.4	14		
A 86583	Fragment of a vessel neck	1	chert, undeterminable	H 801	secondary shaft	0.2–0.4	9	2.7 x 2.3 x 1.4	
A 86584	Pottery fragments	1	pottery	H 801	secondary shaft	0.2–0.4	5		
A 86585–86586	Thin walled, wheel made vessel/bowl with burnished vertical lines. 3/4 of the vessel survived, glued from 17 fragments (fine fabric, rich in very fine mica; colour homogenous almost all over: 10YR 4/2 dark grayish brown – 4/1 dark gray)	2	pottery	H 801	secondary shaft	0.4–0.6	11+5		
A 86587	Tiny pottery fragments	3	pottery	H 801	secondary shaft	0.2–0.4	25+5		
A 86588–86589	Charcoal	5	wood	H 801	secondary shaft	0.2–0.4	5+2+4		
86590	Iron buckle	2	Fe	H 801	burial context	0.2–0.4	700	– x 16.4 x 14	6: 6
A 86591	Pottery fragments	1	Fe	H 801	burial context		10	4.2 x 2.9 x 1.1	6: 1
A 86592	Pottery fragment with incised decoration	3	pottery	H 801	grave infill		5	3.2 x 1.7 x 1.1	6: 3
A 86593	Pottery fragment with incised decoration	1	pottery	H 801	grave infill	bottom	3		6: 5
A 86594	Formless piece of chert, burnt	1	chert	H 801	grave infill		2	1.3 x 1.2 x 1.1	
A 86600	Mules bones	1	animal bones	H 801	burial context				
A 86601	Pottery fragment with incised decoration	1	pottery	H 802	grave infill/secondary shaft	surface	14		9: 1
A 86602	Fragment of a vessel rim	1	pottery	H 802	grave infill/secondary shaft	0–0.2	2		
A 86603	Fragment of a vessel neck with incised decoration	1	pottery	H 802	grave infill/secondary shaft	0–0.2	3		
A 86604	Fragments of a vessel belly	5	pottery	H 802	grave infill/secondary shaft	0–0.2	10		
A 86605–86606	Tiny pottery fragments	2	pottery	H 802	grave infill/secondary shaft	0.2–0.4	3+8		
A 86607	Tiny pottery fragments	3	pottery	H 802	grave infill/secondary shaft	0.2–0.4	4		
A 86608	Four pieces of charcoal	4	wood	H 802	grave infill/secondary shaft	0.2–0.4			
A 86609	Undefinable pottery fragment with edged rim	1	pottery	H 802	grave infill/secondary shaft	0.4–0.6	14		
A 86610	Tiny pottery fragments	2	pottery	H 802	grave infill/secondary shaft	0.4–0.6	4		
A 86611	Pottery fragment with triangular strokes	1	pottery	H 802	grave infill/secondary shaft	0.6–0.8	1		
A 86612	Fragment of a vessel belly	1	pottery	H 802	grave infill/secondary shaft	0.6–0.8	6		
A 86613	Tiny pottery fragments	5	pottery	H 802	grave infill/secondary shaft	0.6–0.8	12		
A 86614	Charcoals	2	wood	H 802	grave infill/secondary shaft	0.6–0.8			
A 86615	Tiny pottery fragments	2	pottery	H 802	grave infill/secondary shaft	1–1.2	7		
A 86616	Bronze key and tiny fragment of an iron ring	2	CuSn, Fe	H 802	burial context, inside coffin		16	10 x 2.8 x 0.5	9: 6

Inventory number	Subject	Nb of pieces	Material	Grave	Context	Depth (m)	Mass (g)	Length x width x thickness (cm)	Figure
A 86617	Bronze key	1	CuSn, Fe	H 802	burial context, inside coffin		15	10 x 2.8 x 0.5	9: 4
A 86618	Bronze knife	1	CuSn	H 802	burial context, inside coffin		11	11.6 x 1.6 x 0.3	9: 7
A 86619	Bronze buckle	1	CuSn	H 802	burial context, inside coffin		23	3.4 x 2.7 x 1.1	9: 8
A 86620	Two fragments of a bronze sheet with wood remains	2	CuSn, wood	H 802	burial context, inside coffin		4	3.5 x 2.3 x 0.05	9: 9
A 86621	Ribbed glass bead	1	glass	H 802	burial context, inside coffin		12	- x 2.6 x 1.7	9: 5
A 86622	10 pieces of small coloured beads (1 blue, 3 yellow, 3 wine red, 3 beige), 4 beads (strung on the thread) were found in sequence: yellow – wine red – yellow – wine red	10	glass	H 802	burial context, inside coffin		1	from 0.5 x 0.3 to 0.7 x 0.4	9: 2
A 86623	One sided three layered comb with a slightly arc shaped handle with an incised double line border on the handle and a pattern of ring-and-dots in the middle on the middle layer of the comb	1	antler	H 802	burial context, inside coffin		36	16.6 x - x 1.8	9: 3
A 86624		1	pottery	H 803	burial context, outside coffin		1295	- x 24.2 x 12.9	12: 7
A 86625	Pottery fragment	1	pottery	H 803	burial context, inside coffin	grave fill, near feet	5		
A 86626	Iron sword with rests of a wooden scabbard on both sides of it	1	Fe, wood	H 803	burial context, inside coffin		568	78.9 x 4.5 x 0.5	12: 8
A 86627	Iron lance	1	Fe, wood	H 803	burial context, inside coffin		89	17.3 x 3.5 x 2	12: 6
A 86628	Fragment of an iron knife	1	Fe	H 803	burial context, inside coffin		11	8.3 x 2.1 x 0.5	12: 4
A 86629	Iron fitting – handle?	1	Fe	H 803	burial context, inside coffin		8	5.9 x 1.6 x 1.1	12: 3
A 86630	Iron stick	1	Fe	H 803	burial context		1	4.4 x 0.5 x -	12: 1
A 86631	Iron stick	1	Fe	H 803	burial context		2	4.5 x 0.5 x -	12: 1
A 86632	Iron stick	1	Fe	H 803	burial context		1	5.2 x 0.5 x -	12: 1
A 86633	Iron stick	1	Fe	H 803	burial context		0.5	2.3 x 0.5 x -	12: 1
86634	Chert flake with triangular cross-section	1	Krumlovský es type chert, variety II	H 803	burial context, inside coffin		7	3.8 x 1.8 x 1.7	12: 2
A 86635	One sided three layered comb with a slightly arc shaped handle with an incised double line border on the handle and a pattern of ring-and-dots in the middle on the middle layer and the handle of the comb	1	antler	H 803	burial context, inside coffin		26	13.4 x 3.6 x 1.2	12: 5
A 86636	Egg shells	1	egg shell	H 803	burial context, outside coffin, above pottery vessel A 86624				29
A 86637	Iron fitting	1	Fe	information lost			2	- x 2 x 1	
A 86638	Iron stick	1	Fe	H 804	burial context		0.5	3.4 x 0.4 x -	15: 1
A 86639	Tiny iron fragments	2	Fe	H 804	burial context		0.5		
A 86640	Fragment of a vessel rim	1	pottery	H 805	grave infill	0-0.2	3		
A 86641-86642	Fragments of a vessel belly	2	pottery	H 805	grave infill	0-0.2	17+11+18		
86643	Tiny pottery fragments	6	pottery	H 805	grave infill	0-0.2	18		
A 86644	Fragment of a vessel belly	1	pottery	H 805	grave infill	0.2-0.4	9		
A 86645	10 pieces of charcoals	10	wood	H 805	grave infill	0.2-0.4			
A 86646	Fragment of a vessel rim	1	pottery	H 805	grave infill	0.4-0.6	5		
A 86647	Fragment of a vessel rim	1	pottery	H 805	grave infill	0.4-0.6	5		
A 86648	Tiny pottery fragments	6	pottery	H 805	grave infill	0.4-0.6	16		
A 86649	Tiny fragment of a bronze sheet with a pattern of ring-and-dots in the middle	1	CuSn	H 805	grave infill	0.4-0.6	0.5	1.1 x 1 x 0.1	15: 2
A 86650	Charcoal	1	wood	H 805	grave infill	0.4-0.6	1		
A 86651	Tiny pottery fragments	4	pottery	H 805	grave infill	0.6-0.8	9		
A 86652	Charcoals	2	wood	H 805	grave infill	0.6-0.8	1		
A 86653-86655	Fragments of a vessel belly	3	pottery	H 805	grave infill		12+4+6		
A 86656	Tiny pottery fragments	2	pottery	H 805	grave infill		5		

A 86657	Small piece of daub	1	clay	H 805	grave infill	1						
A 86658	Bronze buckle	1	bronze	H 805	burial context, inside coffin	12					3.8 x 2.8 x 1.2	75: 3
A 86659	Fragments of an iron tool (knife?)	21	Fe	H 806	burial context, inside coffin	25					length 16 cm according to documentation in situ	19
A 86660	Tiny iron fragment	1	Fe	H 806	burial context, inside coffin, at right feet	1						
A 86661	Bone buckle with a pattern of ring-and-dots in the middle. Broken into two pieces.	1	bone or antler, Fe	H 806	burial context, inside coffin	20					4.9 x 4 x 1.1	19
A 86662	Snail shell	1	malako	H 806	burial context, inside coffin, above pelvis	1						
A 86663	Fragment of a vessel rim	1	pottery	feature 501	ditch infill	8						
A 86664	Pottery fragment	1	pottery	feature 501	ditch infill	3						
N 266	Human bones	1	bones	H 800	burial context							
N 267	Human bones	1	cremated bones	H 801	secondary shaft, burial context	7						
N 268	Human bones	1	bones	H 801	burial context							
N 269	Human bones		cremated bones	H 802	secondary shaft	2.2						
N 270	Human bones	1	bones	H 802	burial context, inside coffin							
N 271	Human bones	1	bones	H 803	burial context, inside coffin							
N 272	Human bones	1	bones	H 804	burial context							
N 273	Human bones	1	bones	H 805	burial context							
N 274	Human bones	1	bones	H 806	burial context, inside coffin							

Tab. 1. Drnholec - Pod sýpkou. Complete list of the artefacts found in the grave fills. — Tab. 1. Drnholec - Pod sýpkou. Seznam všech předmětů z hrobových výplní.

dividual rivets fixing all the comb's parts together. All eight rivets are made from iron.

Practically the same applies to the parallels of the comb from grave H 803 as to the parallels to the comb from grave H 802. Combs with identical or very similar structure and decoration were found in central Germany: i.e. Obermöllern, Kr. Naumburg (*Schmidt 1961*, Abb. 56: 9), in Bohemia: i.e. Jiřice u Mělníka (*Svoboda 1965*, obr. LXI: 13), Klučov (*Korený – Kudrnáč 2003*, obr. 8: 10), Lochenice (*Zeman 1990*, obr. 34: 8), Mochov (*Zeman 1958*, obr. 8: 2, 13: 8), Záluží u Čelákovic (*Svoboda 1965*, obr. CVIII: 8), in Moravia: i.e. Holubice (*Čižmář 2011*, Taf. 18, hrob 60), Lužice (*Klanica – Klanicová 2011*, Taf. 29, hrob 6), in Lower Austria: cemetery at Asperdorf (*Adler 1978*, Taf. 4: 1), and in Hungary as well: mainly cemeteries at Szentendre (*Bóna – Horváth 2009*, Taf. 39: 16-3) and Tamás (*Bóna – Horváth 2009*, Taf. 72: 31-3, 78: 50-10).

## Knives

Knives are very common among the grave goods of Langobardian cemeteries. Here, there are only two, maybe three specimens. An iron fragment, badly preserved, whose shape cannot unfortunately be reconstructed, was recovered in grave H 806 (*Fig. 19*). It is impossible to tell if it was a knife or not. Another iron knife, with part of the blade broken off, was found in grave H 803 (*Fig. 12: 4*).

A small bronze knife comes from grave H 802 (*Fig. 9: 7*). The material used is so atypical that no parallel could be found. In shape it does not differ from the normal production of the period. The only special feature is the longitudinal groove on both sides of the upper edge of the blade. The shape of the knife excludes the possibility of use as a medical instrument (*Kolník 2004*). Macroscopic traces of use and the length of the artefact (11.6 cm) in relation to the classification of miniatures (*Beilke-Voigt 1998*, 15) exclude its interpretation as a miniature.

## Belt buckles

Five buckles were present among the finds, with one in each of graves H 802, H 805, and H 806. Only grave H 801 contained two pieces (*Fig. 6: 1, 3*). In the latter case, these are iron buckles of approximately oval shape with a slightly inwardly curved side on which the mandrel rests. Close parallels were identified in central and Southern Germany (*Hansen 2004*, 72–73), as well as in the Middle Danube region (*Tejral 2005*, 142).

The example from grave H 802 was bronze and was oval in shape with significant narrowing at the point of attachment of the mandrel (*Fig. 9: 8*). Its closest parallels could be traced mainly in Bohemia, i.e. Záluží (*Svoboda 1965*, Tab. LXXXVIII), Roudnice nad Labem - Hracholusky (*Svoboda 1965*, Tab. LXXVII: 5), Praha-Podbaba (*Svoboda 1965*, Tab. LXXIX: 3). A set of parallels is provided by the cemetery at Hegykő, particularly graves 62 and 78 (*Bóna – Horváth 2009*, Taf. 13: 62-6; 19: 78-1). Many of the finds are very similar in shape

and have an identically shaped pin but unlike our specimen, they bear a decoration, the frame is not so massive and the oval shape is somewhat loose (i.e. in *Bóna – Horváth 2009*, Taf. 5: 8-1, 12: 56-2).

Another bronze buckle, from grave H 805, has a remarkable shape (*Fig. 15: 2*). The form goes beyond the usual production known from Langobardian graves. An extremely similar specimen comes from the Alaman environment. However, *D. Quast (2006, 61)* refers to the Mediterranean region, particularly to *Radulescu – Lungu 1989, 2584–2585, Fig. 18*. Indeed, two other close examples come from today's Romania (*Alexandrescu 1966, Pl. 102: 16; Aurelian 1962, Fig. 20*).

By far the largest number of analogies was published from the territory of today's Bulgaria (*Traykova 2017*). The buckle from grave H 805 corresponds with group A (type XV, XVII), while buckles with a frame in the shape of a letter B correspond with group D. These groups are typochronologically dated from the mid-6<sup>th</sup> century to the first half of the 7<sup>th</sup> century (*Traykova 2017, 52–53, 59, 115–116, Tab. 41: 337–339, 43: 364, 107: 1226–1232, 108: 1234–1239*). Only a single buckle from the cited analogies is dated by the author to the time interval between the turn of the 5<sup>th</sup> and 6<sup>th</sup> century and the last quarter of the 6<sup>th</sup> century (*Traykova 2017, 116, Tab. 108: 1239*).

The buckle from grave H 806 is also related to the Alaman environment. It is an atypical artefact not only in its shape, but also in the material, which is bone or antler. The buckle frame is rectangular, decorated across the entire surface with engraved rings with a dot in the middle (*Fig. 19*). A similar example comes from the Alamannian cemetery in Pleidelsheim (*Koch 2001, 308, Taf. 48: 10*). Other examples of bone buckles from the area of Southern Germany and France can be mentioned. However, despite the material, they are different in shape (*Martin 1988*).

## Weapons

There were two weapons: a sword and a lance head. Both were deposited in grave H 803 (*Fig. 12: 6, 8*). The iron sword of spathion type was 83 cm long. The length of the sword is typical among 5<sup>th</sup>–7<sup>th</sup>-century spathion swords (*Menghin 1983, 16; Fischer 2014, 190–191, Abb. 266*). The shape of the blade corresponds to the Illerup-Wyhl type according to the classification of *Ch. Miks (2007, 99–100, Taf. 133: A96, 149: A536)*. Not only the length of the blade but also the construction of the tang, which is stepped, parallel the type mentioned. This type of sword comprises a large group of various sub-types and chronologically is dated from the beginning of the 4<sup>th</sup> century to the 6<sup>th</sup> century (*Bárta – Hložek – Šmerda 2016, 21–22; Miks 2007, 99–103, Tabelle 26*). Visible on the Drnholec sword is the imprint of the bronze rain-guard (chappe) under hilt which is also in keeping with the types mentioned above. Unfortunately, the absence of structural and decorative elements of the sword handle and its scabbard does not allow any closer typochronological evaluation.

The spear has a leaf-shaped blade with a rather short socket (*Bóna – Horváth 2009, 184; Tejral 2005, 154*).

Due to the damage (broken tip), it was not possible to define an exact parallel. The spear from Kajdačs, grave 31 has analogous proportions of socket and leaf (*Bierbrauer 1990, fig. 12.3*). *V. Bierbrauer (1990, 80)* attributes them to the Langobards, with whom they later reached the Apennine Peninsula.

## Miscellanea

The artefact assemblage also includes several metal fragments, for which it is not possible to unambiguously determine the original shape and purpose, but it is worth attaching them to the diagnostic material listed here.

The main item is a small piece of bronze sheet originating from grave H 805, which bears a decoration in the form of hammered triangles and circles with a dot in the middle (*Fig. 15: 3*). This decoration thus resembles the metalwork decoration from graves 53 and 67 in Lužice (*Klanica – Klanicová 2011, Taf. 50: 53: 1, 2; 60: 67: 1, 2*).

Other metal fragments of bronze sheet, perhaps from a single object, were recovered in grave H 802. Inside the coiled sheet with one iron rivet, the remains of wood are still recognisable (*Fig. 9: 9*).

Among the iron fragments, four rods (*Fig. 12: 1*) from grave H 803 and another from H 804 (*Fig. 15: 1*) are remarkable. The hint of a loop/hole indicates that perhaps they could come from a cover sheet similar to that of the grave 52 in Lužice (*Klanica – Klanicová 2011, Taf. 51: 14*) or grave 49 in Tamás (*Bóna – Horváth 2009, 164, Taf. 77: 5*).

Other unspecified iron fragments were also found in graves H 804 and H 806.

## Chipped stone industry

The industry is represented by three artefacts. Two of them were made of indeterminate raw material, which had been severely burnt, and came from the fill of the secondary pit of grave H 801. One is a fragment of a flake or a blade 1.4 cm thick. Its dorsal side bears tiny macroscopically visible traces of use. The second artefact is an amorphous small piece.

The last of the three artefacts was placed between the waist and the left hand in grave H 803. It is an artefact of triangular cross-section with traces of use on all three edges. The faces of the artefact are finely abraded, which may be the result of a long stay in the water. The raw material used is the Krumlovský les type chert, variety II (*Fig. 12: 2*), but it is possible that the artefact comes from river gravel, potentially from the immediate vicinity of the site. Secondary use of a prehistoric artefact can be excluded. The function of the artefact is not clear. It could have been a matchlock as *J. Tejral (1982, 154–155)* interprets chipped stone tools in Migration Period graves, but it differs significantly morphologically from medieval or modern flints, which have a significant retouch. In addition, no fire striker was found in the grave.

Such artefacts frequently occur among grave goods in Langobardian graves and are almost exclusively

found with male burials (i.e. Čížmář 2011, 141), and Drnholec is no exception.

### Summary of the artefactual analysis

Despite the fact that, with the exception of two graves (H 800 and H 806), all were affected by a secondary intervention resulting in the partial removal of the grave goods buried as part of the original inhumation, and in one case (H 804) the grave was fundamentally disturbed by recent construction activities, it is possible to point out several phenomena from the results of analysis of the preserved artefacts.

H 802 and H 803 grave goods stand out due to their quantity and the fact that a few of the artefacts are particularly representative. Some of them have very close parallels mainly in the Langobardian *koiné*. This applies to these assemblages even if they are evaluated as a whole. Using the anthropological classification, we can define female (H 802) and male grave goods (H 803), and it is again something which is typical for Langobardian graves. The same picture can be observed elsewhere, e.g. in Lužice cemetery (*Klanica – Klanicová 2011*, 230, 231–232, 233–234, 261, 267, 271, 304–305, Taf. 31, 33, 36, 56, 60, 63, 82).

In principle, the same applies to grave H 801, whose preserved goods are not so representative, but contain typically Elbe-German components: in this case the hand-made pottery. Even the Thuringian bowl is somehow a foreign but not an exceptional element. J. Tejral believes that they were brought to the Middle Danube region by newcomers directly from Thuringia (*Tejral 2005*, 159; see also *Friesinger – Kerchler 1981*, 264). This applies to forms 1 and 1a according to *Hansen (2004, 90–91; Tejral 2011, 66)*. In our case, the vessel was of form 2, which means that it is later. If we accept Tejral's theory, type 2 would rather indicate persistent contacts with the regions of central Germany (*Tejral 2011, 66*). However, we have observed that the fabric (fine, well sorted and mixed clay with very fine quartz inclusions, rich in fine silver-coloured mica schist), from which the vessel was made, is rather local. As a whole, however, the assemblage from grave H 801 completely fits into the overall picture of the Langobardian cemeteries.

Graves H 805 and H 806 can be described as atypical Langobardian burials, mainly due to the buckles found in them. The bronze one from H 805 grave has the closest parallel in the Alamanian environment on one side and in current Bulgaria, especially, and Romania on the other, where these buckles slightly differ in shape, and are more abundant. The bone buckle has parallels in the Alamanian environment again.

The close relationship between Alamans and Langobards has been pointed out several times in the bibliography. Still, the interpretation of the Alaman-Frankish artefacts in the Langobardian cemeteries is ambiguous (i.e. *Koch 1997, 199; Quast 2008, 371–372*).

There is not much support for the chronological classification of the individual graves and the cemetery as a context. Nevertheless, it is necessary to underline a few artefacts that may shed some light, the main one being the Thuringian bowl from grave H 801. Typologi-

cally, it corresponds to form 2 according to Ch. Hansen who places their occurrence in central Germany from the end of phase 3, but mainly to phase 4 (MD Phase 4: 530–560/570; *Hansen 2004, 92, 132, Abb. 137*).

The chronology of grave H 802 is based on the typochronology of beads with analogies in the Middle Danube area, but also in south-western Germany, where they are dated to the first third of the 6<sup>th</sup> century (*Beilharz 2010, 63; Sasse – Theune 1996, 221*). The combs and knives are not chronologically sensitive at all. The 'keys' also show a wide time span although J. Tejral considers the second third of the 6<sup>th</sup> century to be the main horizon of their occurrence (*Tejral 2011, 31*). The bronze buckle then has parallels in Bohemia and at the cemetery at Hegykő, whose establishment was dated after A.D. 510 (*Bóna – Horváth 2009, 204*).

Grave H 803 provided no convincing chronological evidence. The weapons, comb and hand-made pottery are not suitable for detailed chronology.

Bronze buckles from Romania, identical and similar to the grave H 805 exemplar, are dated, respectively to the 6<sup>th</sup> century, and to the 6/7<sup>th</sup> century (*Radulescu – Lungu 1989, 2584*). The rich set of analogies from the territory of today's Bulgaria is roughly dated, with one exception, to the second half of the 6<sup>th</sup> century and the first half of the 7<sup>th</sup> century (*Traykova 2017, 59, 116*). The parallel object from Southern Germany is unfortunately dated only roughly (*Quast 2006, 61*). Grave 116 from Pleidelsheim, which produced a parallel to the grave H 806 bone buckle, was, by U. Koch, dated in phase 4 (SD Phase 4), in absolute chronology A.D. 510–530 (*Koch 2001, 309, 356–357*). It is interesting that the grave goods are similar to those in Langobardian graves (*Koch 2001, 308*).

Based on the above, it can be stated that the grave goods of Drnholec cemetery correspond to the Middle Danube phase 4 (MDo Phase 4), as defined by J. Tejral and falls in the interval between A.D. 510/520–540/550 (*Tejral 2005, 143–146*).

### Palaeopathological and anthropological analysis of skeletal remains

Any comprehensive study of an osteological collection excavated during archaeological research should include not only anthropological but also palaeopathological analysis of the skeletons, providing direct evidence of disease occurrence in historical populations and, in connection with the findings of other research (archaeological, genetic, chemical, etc.), should assist in identification of major risk factors that could be causally related to the health conditions of the population sample being studied.

### Material and methods

The basic anthropological (morphoscopic and morphometric) evaluation, i.e. estimation of sex, age and body stature, was performed according to anthropological standards (*Buikstra – Ubelaker /eds./ 1994; Stloukal et al. 1999*). The following methods were also used:

Anderson 1965; Bruzek 2002; Černý – Komenda 1980; Čihák 1987; İşcan – Müller-Shaivitz 1984; Lovejoy 1985; Meindl – Lovejoy 1985; 1989; Murail et al. 2005; Novotný 1979; 1981; 1983; 1985; 1986; Phenice 1969; Schaefer – Black – Scheuer 2008; Szilvássy 1977; McKern – Stewart 1957; Ubelaker 1978; Stloukal – Hanáková 1978; Teschler-Nicola 1992; Vyhnánek – Stloukal 1971. Subsequently, dental analysis was carried out with a focus on dental caries, dental wear and incidence of dental enamel hypoplasia (El-Najjar – Desanti – Ozbek 1978; Goodman 1993; 1998; Reid – Dean 2000). The analysis of buccal dental microwear followed. This involved making negative tooth replicas using high-resolution Affinis light body / regular body stomatological cast materials (manufactured by Coltène AG, Switzerland; for methods see Pérez-Pérez 1990; Lalueza – Pérez-Pérez – Turbón 1993; 1996; Jarošová et al. 2006). After the positive casts of the teeth were made, the data were processed using a scanning electron microscope (SEM) at the Institute of Histology and Embryology of the Faculty of Medicine, Masaryk University in Brno. The metric evaluation of the skeletons was carried out according to standards proposed by Buikstra – Ubelaker /eds./ (1994), according to the metric definitions provided by R. Martin and K. Saller (see Knussmann 1988, as well as Drozdová 2005). The data thus obtained were used to estimate body height applying the method of Sjøvold (1990) and other authors (Bach 1965; Černý – Komenda 1982; Dobisíková et al. 2000; Breitingner 1937; Humphry 1858; Telkkä 1950; Pearson 1899; Trotter – Gleser 1952; Zeman – Králík 2012) and using STATURE.exe software (Polcerová 2016).

The basis for a detailed palaeopathological analysis of the skeletons of seven individuals (three males, three females and one child) from Drnholec was a classical anthropological study, which provided basic information on the sex, age and physical constitution of the individuals studied. The main research method was a detailed macroscopic examination, completed in indicated cases also by X-ray examination. All pathological changes were documented and detailed differential diagnosis was performed.

In particular, the criteria of Steinbock (1976), Stloukal – Vyhnánek (1976), Ortner – Putschar (1985), Aufderheide – Rodríguez-Martín (1998), Ortner (2003) and Horáčková – Strouhal – Vargová (2004) were used for evaluation of osteopathological changes. The findings were compared with similar cases from clinical practice using medical publications (e.g. Dungal et al. 2005; Vyhnánek et al. 1998; Bednář et al. 1982).

## Results and discussion

Anthropological evaluation of individuals found at Drnholec site identified skeletal remains of 7 individuals (Tab. 2). The overall condition of the skeletons subsequently affected the amount of anthropometric data obtained, as none of the cranial indices could be determined. The condition of postcranial skeletons was much better, body stature was determined in 5 individuals. Dental caries, as well as intravital tooth loss (H 802, H 806) and enamel hypoplasia (H 801, H 806),

Grave #	Sex	Age	Body stature in cm
H 800	child (non determined)	8–11	X
H 801	M (?)	30–45	175–178
H 802	F	>50	152–155
H 803	M	>50	177–180
H 804	F	>20	150–154
H 805	F	18–30	X
H 806	M	30–45	147–163

**Tab. 2.** Drnholec - Pod sýpkou. Basic anthropological data of individuals from graves H 800 – H 806. — **Tab. 2.** Drnholec - Pod sýpkou. Základní antropologická data jedinců z hrobů H 800 – H 806.

were observed. Among the non-metric features, parastylus was observed in H 801, and musculoskeletal stress markers located on clavicle and humerus, i.e. features known also as *fossa costoclavicularis* and *fossa pectoralis major* (see Czarnetzki 1971; Velemínský 1999) in H 803, H 805 and H 806 (in literature known also as bicipital groove). If the occurrence of this longitudinal depression in the humerus and collarbones is not associated with any disease, it can be presumed that they have been caused by a continuous activity associated with overloading the upper limbs linked with significant physical activity. The incidence of almost 25% of these musculoskeletal stress markers was found in an Eneolithic group in Bohemia (Miklasová 2010). In the Great Moravian site Mikulčice-Kostelisko, the occurrence of *fossa pectoralis major* was found only in graves with poor equipment (in 6%), while in graves with rich equipment it was not detected (Velemínský – Poláček – Dobisíková 2008). In other Great Moravian groups, the *fossa pectoralis major* was also recorded with a statistically significant more frequent occurrence in men: in the population from Josefov (Mikulčice background) in 20.3% and in the Mikulčice-Castle group in 12.9%. In the population of Mikulčice-Kostelisko, the occurrence of *fossa pectoralis major* was detected in nearly 10% (Velemínský et al. 2008).

The tooth cementum, a connective tissue that surrounds the dental roots, deposits in incremental growth lines that are visible in histological thin sections under the microscope. Each pair of a light and a dark band corresponds to a full seasonal cycle. Counting the number of cementum annulations and adding the number of paired lines to the estimated year of eruption of the analysed tooth (AlQahtani – Hector – Liversidge 2010) reveals the histological (biological) age of the individual (Bertrand et al. 2016; Blondiaux et al. 2016; Naji et al. 2016; Wittwer-Backofen – Gampe – Vaupel 2004). In archaeological samples, fungal growth and erosion may affect the preservation of the dental cementum. As an alternative to counting all lines across the whole of the cementum section, we counted the average distance between lines in a well-preserved area and extrapolated the results across the entire section. The number of incremental lines is the total width of the cementum divided by the width between two incremental lines (Gupta et al. 2014). In addition to the age of an individual, tooth cementum annulation analysis may also give insights about the season of death and life events such

Histo-ID	Info	Tooth FDI	Average tooth alveolar eruption in years*	TCA counts	Estimated TCA age in years (counting): Mean $\pm$ confidential interval	TCA width of cementum/width between two lines	Estimated TCA age in years (width): Mean $\pm$ confidential interval
5648	Drnholec H 806	35	11.5	20	31.5 $\pm$ 5	27.29	38.79 $\pm$ 5

**Tab. 3.** Results of the tooth cementum annulation analysis of male H 806, including the type of tooth (FDI World Dental Federation notation), the average age of its alveolar eruption (after AlQahtani – Hector – Liversidge 2010), the mean of the TCA counts from three independent counts and the extrapolated TCA counts by dividing the width of the cementum by the mean distance between lines. Age of death is calculated by adding the means of counts or measurements to the tooth eruption age; an error range of  $\pm$  5 years is assumed. — **Tab. 3.** Výsledky analýzy přírůstků zubního cementu (cementochronologie) u muže H 806 s uvedením typu zubu (podle FDI World Dental Federation), průměrného věku alveolární erupce (podle AlQahtani – Hector – Liversidge 2010) a průměru počtu přírůstkových linií cementu zubu (TCA) vypočteným ze tří nezávislých pozorování. V posledním sloupci jsou uvedeny extrapolované počty přírůstkových linií cementu zubu vzniklé vydělením celkové šířky cementu průměrnou vzdáleností mezi přírůstkovými liniemi. Věk v době úmrtí se vypočítá tak, že se k věku erupce zubů přičtou výsledky počtu linií či jejich měření; předpokládá se, že chybové rozpětí je  $\pm$  5 let.

as pregnancies, skeletal trauma and certain diseases. The difference in age estimation via counting all tooth cementum lines and the extrapolation method is obvious and unexpected and may be caused by non-physiological events in the organism at the time of dental cement growth. The calculated age at death is 31.5  $\pm$  5, resp. 38.79  $\pm$  5 years for male H 806 who died between 26.5 and 43.79 years (Tab. 3). This wider age range does not provide an exact age at the time of death, but provides a sufficient confidence interval for the age at which the examined man died. When comparing the results of tooth cementum annulation (TCA) with macroscopic analysis of age-at-death estimation, we conclude that macroscopic methods underestimated the biological age at the time of death by at least 5 years. By combining macroscopic methods and counting all lines of TCA, we estimate the age category at the time of death for 30–45 years. In neither case was it possible to estimate seasonality or identify a significant period of disease as for H 806.

The diet of each individual was estimated by image analysis of dental microwear patterns and these eating habits were compared with populations with known dietary patterns. The proportion of plant and meat in the diet of two men (H 801 and H 806) and of two women (H 802 and H 805) was studied. Length, angle and number of striations were analyzed and categorized into 4 groups according to their orientation. The basic fifteen variables (Tab. 4) of buccal dental microwear were subject to statistical analysis. The density of all striations (NT) in all subjects analyzed is slightly higher than the striations density of all comparative populations. The average length of these striations (XT) is comparable with data provided by research of populations with known dietary habits (Lalueza – Pérez-Pérez – Turbón 1996). To summarize, both parameters are within the range of all comparative populations. Subsequently, microwear data were analyzed using the ratio of horizontal and vertical striations to total density of all striations (NH/NT and NV/NT indices), which are the most important ratios in the interpretation of diet. According to the plotted values and their comparison with populations with a known diet, it can be stated that in the period of the last approximately six months before the death of studied individuals, when the analyzed microwear on tooth enamel surface was formed, meat was dominant in the diet for males H 801 and H 806, while the diet of

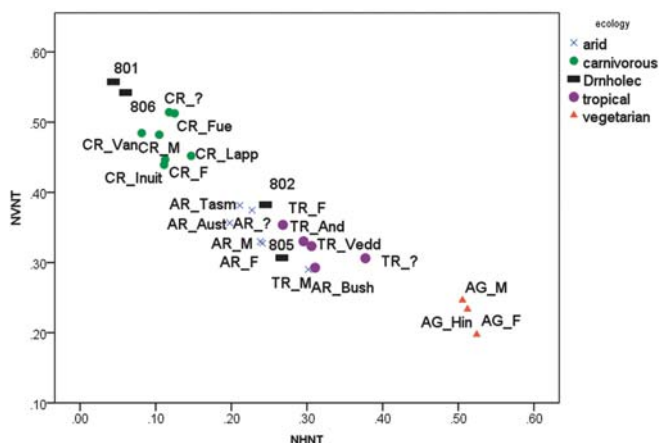
Individual_FDI code for analysed tooth	Orientation of striations	No.	Mean	S. D.
801_27	H	5	99.25	95.57
	V	63	249.71	203.74
	MD	23	164.76	120.46
	DM	22	140.42	117.76
	Total	113	204.49	177.57
802_26	H	25	284.91	185.96
	V	39	201.28	169.30
	MD	14	197.25	147.66
	DM	24	169.34	134.41
	Total	102	213.71	166.56
805_36	H	20	145.21	104.31
	V	23	123.23	91.81
	MD	23	121.57	66.44
	DM	9	163.24	198.64
	Total	75	133.38	105.36
806_14	H	5	109.08	55.48
	V	45	260.85	216.72
	MD	12	165.38	105.43
	DM	21	257.27	236.81
	Total	83	237.00	206.61

**Tab. 4.** Basic statistics for buccal dental microwear variables in individuals at Drnholec site. — **Tab. 4.** Základní statistické proměnné bukalních mikroabrazí zubů jedinců z Drnholce.

women H 802 and H 805 was mixed (Fig. 22). Further results will be clarified by the analysis of other individuals from the examined site, if available in future.

In addition to inhumation, there were also remains of human burned bones in graves H 801 and H 802 (Dokládál 1999). A total of 54.6 grams of cremation remains were present in grave H 801. It is very difficult to determine whether the cremains belonged to only one individual or whether more individuals were mixed in this grave. On the basis of the morphological characteristics and weight of cremation, it could be considered that of one individual who died at the age of 15–30 years. In grave H 802, cremation of 2.2 grams has been preserved. Given the small amount of burnt remains found it is not possible to draw any further conclusions. These fragments of burnt bones can be considered as random deposit rather than an intentional burial.

In a detailed palaeopathological analysis, disease manifestations were not observed on the child's skeleton



**Fig. 22.** Scatterplot of NH/NT index with respect to NV/NT index for individuals from Drnholec (males 801 and 806; females 802 and 805). Range for recent carnivorous populations is NH/NT = 0.05–0.15, NV/NT = 0.40–0.55; range for hunter-gatherers with mixed diet is NH/NT = 0.18–0.40, NV/NT = 0.25–0.40; range for agriculturists with vegetarian population is NH/NT = 0.50–0.55, NV/NT = 0.20–0.25 (see Lalueza et al. 1996). Legend: AG\_Hin = Hindu, vegetarian agriculturalist; populations from tropical areas: TR\_And = Andamanese, TR\_Vedd = Veddahs; populations from arid areas: AR\_Bush = Bushmen, AR\_Tasm = Tasmanians, AR\_Aus = Australian Aborigines; carnivorous populations: CR\_Fue = Fuegians, CR\_Inuit = Inuits, CR\_Van = Vancouver islanders, CR\_Lapp = Lapps. Author I. Jarošová — **Obr. 22.** Graf porovnání poměru počtu horizontálních (NH) a vertikálních (NV) strií k celkovému počtu všech analyzovaných strií (NT) dospělých jedinců z Drnholce (mužů 801 a 806; žen 802 a 805) ve srovnání s dalšími recentními populacemi (populace jsou uvedeny v průměrných hodnotách, jedinci z Drnholce v absolutních číslech). Rozmezí hodnot pro recentní lovecké populace živící se převážně masem jsou NH/NT = 0,05–0,15, NV/NT = 0,40–0,55; rozmezí hodnot pro recentní lovecko-sběračské populace živící se převážně smíšenou stravou jsou NH/NT = 0,18–0,40, NV/NT = 0,25–0,40; rozmezí hodnot pro recentní zemědělské populace živící se pouze vegetariánskou stravou jsou NH/NT = 0,50–0,55, NV/NT = 0,20–0,25 (viz data Lalueza et al. 1996). Vysvětlivky: AG\_Hin = hinduisti, zemědělci, vegetariáni; populace z tropických oblastí: TR\_And = Andamanáci, TR\_Vedd = Veddové; populace z aridních oblastí: AR\_Bush = Křováci (Sanové), AR\_Tasm = Tasmánci, AR\_Aus = Aboriginci (Australáci); populace živící se masem: CR\_Fue = Indiáni z Ohňové Země, CR\_Inuit = Inuité, CR\_Van = Indiáni z ostrova Vancouver, CR\_Lapp = Laponci. Autorka I. Jarošová.

(H 800) or on the skeletal remains of one of the females (H 804). In all other individuals, varying amounts of pathological change have been noted on the bones (Tab. 5). Most often there were traces of a degenerative productive process, both on the spine in the form of *spondylosis* or *spondylarthritis* and on the limb joints in the form of *arthrosis*. The degree of infliction was evaluated according to a modified scheme of *Stloukal – Vyhnanek* (1976). With one exception, affection of the first degree was recorded on the skeletons in the form of fine bone hems along the circumference of articular surfaces and outgrowths (osteophytes) of smaller dimensions (up to 3 mm). Therefore, most of the degenerative productive changes found could be considered as a natural manifestation of age-related musculoskeletal wear and correspond to the age category of the affected individual (*Rejholec* 1982). In cases where the joint disability went beyond age-related changes, there was *articular arthrosis* in one of the males (H 801) and one female (H 802), whose osteophytes were more than 5 mm in size (Fig. 23). In these individuals, it was not possible, on the basis of overall state of teeth and dental abra-



**Fig. 23.** Drnholec - Pod sýpkou. Grave H 802. Deformed left lower jaw head with pronounced osteophyte is a sign of advanced stage of arthrosis of the left jaw joint (photo by J. Vachová). — **Obr. 23.** Drnholec - Pod sýpkou. Hrob H 802. Deformovaná levá hlavice dolní čelisti s výrazným kostěným výrůstkem (osteofytem) je známkou pokročilého stádia artrózy levého čelistního kloubu (foto J. Vachová).

sion, to clearly link *arthrosis* with the possibility of using teeth as a “third hand” tool.

Interesting information on the life of the studied sample can also be obtained from signs of various injuries. Traces of two fractures on the skeleton of a 50–60 year old male (H 803) were found in this small osteological collection. These showed a healed fracture of one rib and the fourth metacarpal bone of the right hand. The rib fracture was recorded on a small fragment, so a more accurate side determination was not possible. The X-ray image shows that the fracture line was transverse and was located at its sternal end near the cartilaginous part. It was healed very well, without dislocation. Due to the fragmentary nature of the ribs, it was not possible to assess whether it was an isolated fracture or multiple chest trauma. This type of fracture is most often indirectly caused by a rupture of the bone when the chest is compressed (in this case from the side), but it is not excluded that it may have been caused by direct violence. However, speculation remains as to whether the injury originated during normal daily activity or was of anthropogenic origin. Isolated rib fracture is a very common accidental trauma in current clinical practice, representing up to 8% of all fractures (*Pokorný et al. 2002, 98–100*). However, in addition to the rib, the affected individual also had a fracture of



**Tab. 5.** Drnholec - Pod sýpkou. Palaeopathological findings. — **Tab. 5.** Drnholec - Pod sýpkou. Paleopatologické nálezy.

Grave	Sex	Age	Finding
H 800	child	infans II	without palaeopathological finding
H 801	M	A II	cribra orbitalia sin. I. grade spondylosis, spondylarthrosis; arthrosis
H 802	F	M II	spondylosis; arthrosis
H 803	M	M II	spondylosis, spondylarthrosis; arthrosis rib fracture, IV. right metacarp fracture with subsequent ankylosis
H 804	F	A ?	without palaeopathological finding
H 805	F	?	cribra orbitalia I. grade double-sided chronic meningitis (TB?)
H 806	M	A II – M I	orthodontic defects, dental caries, periapical cysts chronic meningitis (?) calcified axillary lymph nodes (pneumonia, TB?) suspect multiple epiphyseal dysplasia

fourth metacarpal bone on his right hand with a subsequent posttraumatic aggregation of dislocated fragments with the adjacent third metacarpal (Fig. 24). If both traumatic lesions occurred at the same time, which cannot be confirmed or ruled out, they could have been injured in the fight. The fractures of the diaphysis of the metacarpus near their base, especially the fourth or fifth, occur at random, most often they arise indirectly in a sharp fist hit led with great force. This type of rare fracture is generally very stable, and only rarely is there dislocation of fragments and, exceptionally, post-traumatic ankylosis (Kubáček et al. 1982).

In palaeopathological studies, the disease manifestations also include porotic changes on the orbital roof, known as *cribra orbitalia* or *usura orbitae* or *hyperostosis spongiosa orbitae* (Møller-Christensen – Sandison 1963; Hengen 1971; Moseley 1963). It consists of bone destruction and new bone tissue formation in the front part of the orbital roof in the form of small areas with porous or spongy structure, which, according to the

stage of development, is divided into three types: I. porous, II. cribrate, and III. trabecular (Horácková – Strouhal – Vargová 2004). At present, *cribra orbitalia* are considered by most palaeopathologists to be one of the manifestations of anemia (e.g. Grauer 2019). However, anemia is often only one symptom of another disease, which may not manifest itself on the skeleton. For this reason, *cribra orbitalia* are often classified as non-specific signs of stress that have affected an individual during life. In larger osteological collections, the incidence of *cribra orbitalia* in various populations is usually around 20%, and the finding is more common in children and female skulls (Hengen 1971; Suzuki 1987). However, some authors, such as Poláková (2009), report a frequency that is twice as high. On skeletons from Drnholec, *cribra orbitalia* of type I was reported in two cases, in a 30–45 year old male (H 801) and one female (H 805; Fig. 25). On the female skeleton, chronic meningitis could be the cause of porotic lesions on the orbital roof. This serious condition was suspected on the basis



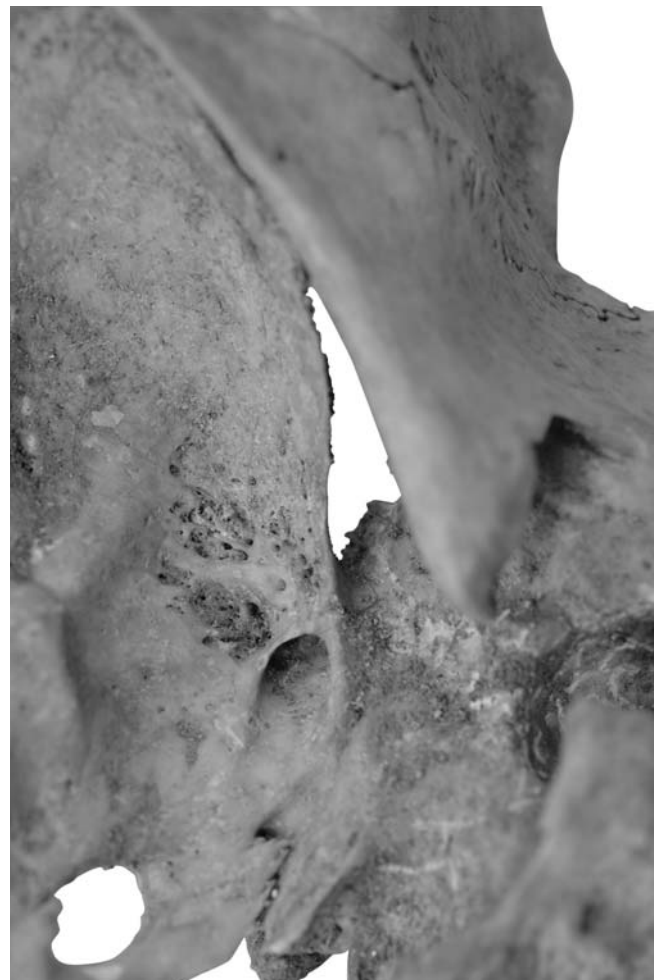
**Fig. 24.** Drnholec - Pod sýpkou. Grave H 803. Healed oblique fracture of the fourth metacarpal bone of the right hand. The fracture remained dislocated and healing resulted in the coalescence of the affected bone with the adjacent third metacarpal (photo by J. Vachová). — **Obr. 24.** Drnholec - Pod sýpkou. Hrob H 803. Zhojená šikmá zlomenina těla čtvrté záprstní kosti pravé ruky. Fraktura zůstala dislokovaná a při jejím zhojení vznikl srůst postižené kosti se sousední třetí záprstní kostí (foto J. Vachová).

10 mm



**Fig. 25.** Drnholec - Pod sýpkou. Grave H 805. Small perforations on the roof of both orbits – *cribra orbitalia* of the first degree (photo by J. Vachová). — **Obr. 25.** Drnholec - Pod sýpkou. Hrob H 805. Drobné perforace na stropu obou očí – tzv. *cribra orbitalia* I. stupně (foto J. Vachová).

of findings on the intracranial surfaces of the skull bones. First of all, there was a significant depression of irregular shape of about 9.3 x 4.4 mm, located on the cerebral surface of the left greater wing of the sphenoid bone, ventrally from the *foramen rotundum*. The lesion surface is rough with signs of a repair process (Fig. 26). Several formations on the *internal lamina* of *squama frontalis*, which take the form of deep *foveolae granulares*, have a similar character. However, they are localized not only in the median plane along the venous sinuses, but also laterally. The largest is about 4.8 mm x 4.6 mm in size. This type of *foci*, which are morphologically similar to depressions caused by *granulationes arachnoideales*, is considered by some palaeopathologists primarily as a manifestation of tuberculous meningitis (Templin – Schultz 1994; Teschler-Nicola – Gerold – Proding 1998; Jankauskas 1999; Hershkovitz et al. 2002; Lewis 2004). However, other diseases, such as tumors, scurvy and rachitis, may cause similar symptoms on the skull bones (Lorber 1958; Lewis 2004). In metabolic diseases (e.g. scurvy, rachitis), there are typical changes in the postcranial skeleton, missing in the studied skeleton, which help with diagnosis. Tumorous osteolytic lesions are characterized by the absence of traces of the repair process, but in the present case, signs of reparation are evident. The greatest diagnostic problem, however, is to distinguish tuberculous meningitis from chronic inflammation of the brain coverings caused by a causative agent other than *Mycobacterium tuberculosis*. However, most other forms of bacterial meningitis usually have an acute progression. In the past, without the possibility of antibiotic therapy, acute meningitis and meningoencephalitis usually ended in rapid death without leaving traces. Therefore, only much more rare viral infections would be considered, in Central Europe the most common are inflammations caused by coxsackie viruses, herpesviruses, tick-borne encephalitis viruses, etc. (Ploier 2015, 234–239). In this case, the only reliable way to verify tuberculosis is the detection of *Mycobacterium tuberculosis* DNA from a bone sample, which will be the subject of a subsequent study. However, even a negative result may not give an accurate diagnosis, as the pathogen may not have been preserved in the bones. It is there-



**Fig. 26.** Drnholec - Pod sýpkou. Grave H 805. Depression of irregular shape on the cerebral surface of the left greater wing of the sphenoid bone (photo by J. Vachová). — **Obr. 26.** Drnholec - Pod sýpkou. Hrob H 805. Deprese nepravidelného tvaru na mozkové ploše levého velkého křídla klínové kosti (foto J. Vachová).

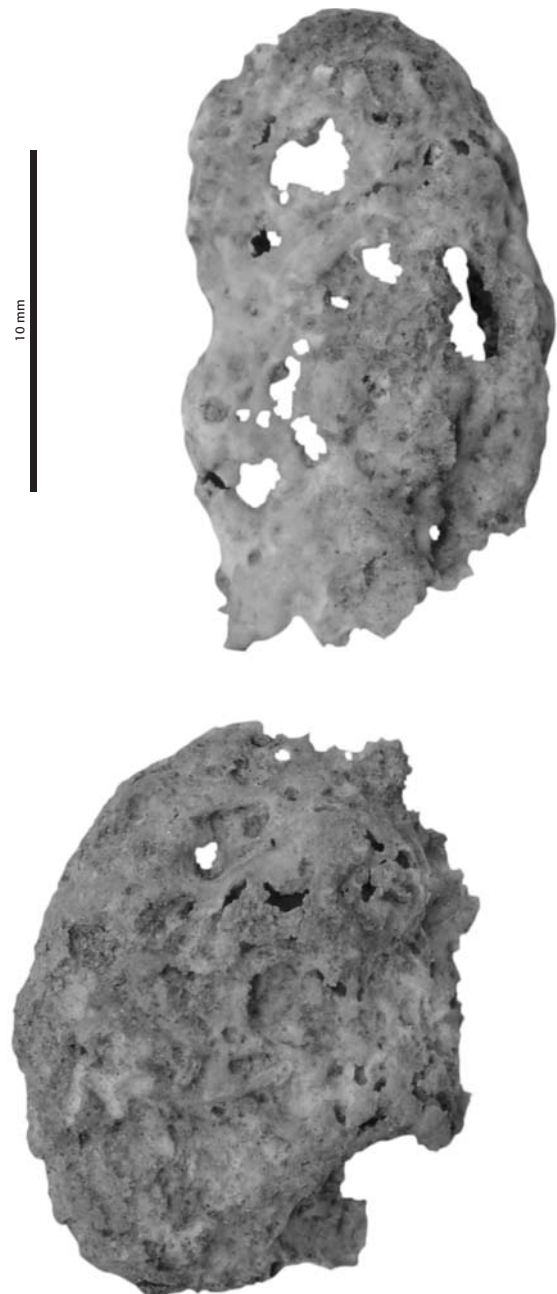
fore necessary to consider other causes of pathological changes in differential diagnosis. For example, *foveolae granulares*-like *foci* could theoretically also arise at long-term elevated cerebrospinal fluid pressure during

trauma, tumor, etc. However, localization of changes on the skull base is not common in these cases.

Signs of chronic inflammation in the skull cavity were also recorded on the skeleton of a 30–45 year old man (H 806) in the form of asymmetry in the formation of *sulci arteriosi* of meningeal arteries on the internal surface of the cranial vault. *Dorsum sellae* is disrupted by the lytic process, the *processus clinoides posteriores* are completely destroyed, in the middle of the *fossa hypophysialis* there is a circular depression with less perforation. On the left greater wing of the sphenoid bone, *spongiosis* is exposed laterally from the *foramen rotundum* (the size of the lesion is about 5 x 6 mm), the bottom of the lesion is perforated ('pitting'). Another similar focus with numerous small perforations (size 3 x 3 mm) is located on the right *squama ossis temporalis* laterally from the pyramid. Inflammation into the cranial cavity probably spread from some of the inflammatory lesions at the roots of the teeth, as numerous cystic formations and deep caries have indicated a very poor condition of the teeth. However, in this case too, tuberculous origin must also be considered. This reasoning is based not only on changes on the internal surface of the bones of the skull. Two formations, probably calcified axillary lymph nodes or tuberculous caverns from the lungs were found in the thoracic area (Fig. 27). It is not excluded that this was a manifestation of the terminal stage of (tuberculosis?) pneumonia. The most interesting pathological findings on this male skeleton were changes in the articular surfaces of the hip joints. Acetabula were bilaterally elongated, flat and oval in shape. On the left the changes were more extensive. The upper edge of the *facies lunata* was rounded. On the right above the joint pit was a periostotic lesion of irregular shape. The heads of both femurs are markedly deformed, oval, as if flowing, and flattened. The femoral necks are short and wide. The collodiaphysal angle is 110° at the right, indicating a varose position of the hip joint (Fig. 28). Morphological changes on the pelvic bones and at the proximal ends of the femurs are very similar to those found in Legg-Calvé-Perthes disease (Ortner 2003). However, the etiology of this disease is still unclear. This is probably an avascular event, resulting in aseptic necrosis of the femoral head. The disease usually manifests in childhood (between the age of 4–12 years), more often in boys (Poul et al. 2009, 207–215).

Palaeopathological studies of skeletal remains from the Czech Lands have reported two cases of possible Legg-Calvé-Perthes disease (Smrčka et al. 2009), of which only one is dated to the Migration Period and comes from the Lombard burial site in Lužice, South Moravia (Smrčka – Svenssonová – Mařík 2000). In addition to pathological changes of both hip joints, other pathological manifestations were discovered on the studied skeleton, suggesting that this is a general systemic disease. This was evidenced in particular by the affected male's relatively low body height and disproportionate stature.

Limb indices of the individual from grave H 806 are: intermembranous index: 73.974 (norm  $70 \pm 1.42$ ), humerofemoral index: 73.4 (norm  $70.3 \pm 1.62$ ) and dolichokeric forearm index: 80.3 (norm  $73.4 \pm 1$ ). The body height of the studied male H 806 was estimated



**Fig. 27.** Drnholec - Pod sýpkou. Grave H 806. Calcified axillary lymph nodes, probably as a result of chronic pneumonia (photo by J. Vachová). — **Obr. 27.** Drnholec - Pod sýpkou. Hrob H 806. Kalcifikované podpažní mízní uzliny, které jsou pravděpodobně důsledkem chronického zánětu plic (foto J. Vachová).

between 147–163 cm (after Sjøvold 1990), suggesting disproportionate growth disorder. Comparison with current clinical cases indicates that individual height, disproportionate stature, bilateral hip inflexion, and deformity of the proximal femoral ends with the character of the morbus pseudo-Perthes bilateralis may be manifestations of multiple epiphyseal dysplasia. It is a hereditary disease, the incidence of which is currently reported at 9 : 100,000 live births (Mařík 2001). However, the diagnosis remains suspect. This very interesting finding will be the subject of a subsequent separate study.



**Fig. 28.** Drnholec - Pod sýpkou. Grave H 806. A view of the dorsal side of the femurs of a 45–55-year-old man with significantly deformed heads (photo by J. Vachová). — **Obr. 28.** Drnholec - Pod sýpkou. Hrob H 806. Pohled na zadní stranu stehenních kostí 45–55letého muže s výrazně deformovanými „rozteklými“ hlavicemi (foto J. Vachová).

## Conclusions of palaeopathological and anthropological analysis

Although a small osteological collection cannot be a sufficiently representative sample of the Lombard population, its study has provided some interesting insights. This small group of individuals did not appear to be exposed to excessive physical load, as degenerative productive changes in the bones could be considered a natural manifestation of age-related musculoskeletal wear and age. Only in two cases, there were significant signs of *arthrosis* noticed on temporomandibular joints, which could be related to the use of the teeth as a working tool or to eating habits. Traces of trauma were recorded on only one male skeleton, whereas a healed isolated rib fracture may have been a rather accidental injury, a fracture of the fourth metacarpus of the right hand with marked dislocation and subsequent adhesion to the adjacent bone is a typical injury from fist fight.

Signs of chronic inflammation on the flat bones of the skull in the two subjects studied show that members of the Germanic tribe under investigation also suffered from serious infectious diseases, most likely tuberculosis. To confirm the tuberculous origin of the inflammation, it will be necessary to supplement the skeletal analysis with additional time-consuming and costly genetic examinations. The same applies to the confirmation of a genetic disease – multiple epiphyseal dysplasia – whose manifestations were recorded on one of the male skeletons. The incidence of congenital systemic syndromes is generally lower in individual populations than in acquired diseases, therefore skeletons with manifestations of congenital defects are rare in palaeopathology. Such rare findings include the skeleton of a male (H 806) from the burial site in Drnholec.

The results of the palaeopathological analysis of the skeletons of seven individuals (six adults and one child)

from Drnholec complement the mosaic of the occurrence of pathological conditions in the Lombard population from the Migration Period. Although in this case it is only a small group of individuals, the results can be used to compare the incidence of diseases at similarly dated burial sites.

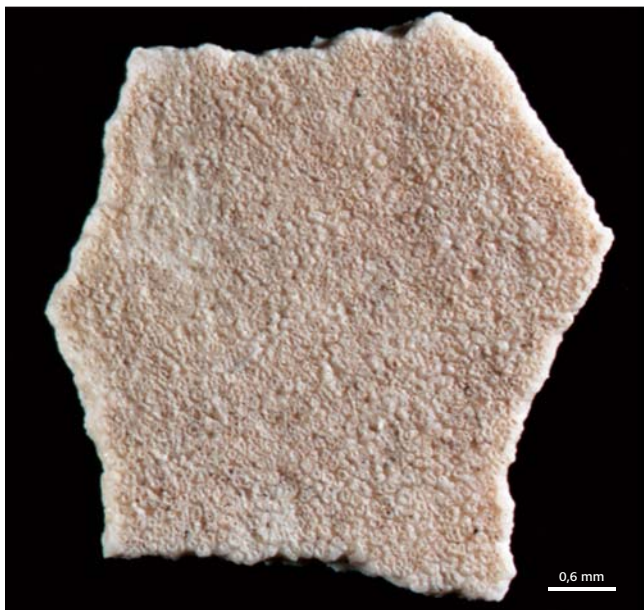
The analysis of the diet of individuals from Drnholec, based on buccal microwear analysis, suggests that the males examined had a higher meat intake in their diet compared to females.

## Animal remains

An almost complete skeleton of a juvenile equine was discovered in the grave H 801 (Fig. 6 and 7). The skeleton was lying on its back, missing its forelimbs and head as a consequence of secondary mortuary practice. From the skeleton are preserved vertebrae, pelvis fragments, femur fragments, left tibia, metacarpus, 3 fingers (basic, middle and end) and ribs. The fact that they are most likely to be from an individual mule is suggested by several identifying features for a cross between a donkey and a horse listed in the works of Peters (1998), and Hanot – Bochaton (2018); Hanot et al. (2017).

On the tibia, the articular surface is extended in a posterolateral direction and presents a more trapezoidal shape. This last character state was previously signaled by Peters (1998) as occurring on mules. The medial articular surface of the tibia does not extend to the medial and posterior margins of the bone, and its posteromedial margin forms an angle.

On the metacarpal the posterior intermediate projection of the distal condyle is weakly extended in the dorsal direction making straighter the postero-dorsal border of the distal epiphysis of the bone. The distal posterior area is depressed. This last state was previ-



**Fig. 29.** Drnholec - Pod sýpkou. Grave H 803. View of the interior of the hen's egg shell (photo by M. Nývltová Fišáková). — **Obr. 29.** Drnholec - Pod sýpkou. Hrob H 803. Pohled na vnitřní stranu skořápky slepičího vajíčka (foto M. Nývltová Fišáková).

ously signaled by Arloing (1882) as characteristic of donkeys and mules, and by Peters (1998) as occurring on mules. The proximal phalanx imprint is strongly marked with a sharp margin. This was signaled as occurring on mules by Peters (1998). Based on these characteristics, we can probably determine that it is a mule.

The calculated height of the animal is 156 cm, which ranks it among medium-sized individuals today. However, its height exceeds that of horses of the same period, and is more like mules, which were often more robust than horses (Peters 1998). Mules were used not only as riding animals and to haul cargo, but also to pull hearses (Hanzák 1977, 88–89). And other osteometric measures also indicate that this was a mule (Peters 1998). Despite sophisticated morphological methods (e.g. Hanot et al. 2017; Hanot – Bochaton 2018), a certain distinction between horses and hybrids is only possible through DNA analysis (Granado et al. 2020).

Egg shells were found in grave H 803 in the top of a vessel (Fig. 12: 7) fill. Two fish vertebrae were found by floating the vessel's fill. The shells were subjected to microscopic analysis (Hamilton 1986) and were determined to be probably from chicken eggs (Fig. 29). The two vertebrae correspond to the common barbel (*Barbus barbus*).

## Isotope analysis

The molar of an individual mule found in the grave was taken and subjected to an isotope ratio analysis of carbon and nitrogen. The carbon isotope helps to reconstruct the composition of food. It distinguishes the so-called C4 and C3 plants, i.e. plants that incorporate the  $^{13}\text{C}/^{12}\text{C}$  carbon isotope into complex sugars during photosynthesis. For C3 plants, the  $^{13}\text{C}$  carbon isotope is

UGAMS#	Sample ID	Material	$\delta^{13}\text{C}_{\text{col}}$ ,‰	$\delta^{15}\text{N}_{\text{col}}$ ,‰	C/N
28937	POD6	molar	-21.90	5,93	3,19

**Tab. 6.** Drnholec - Pod sýpkou. Results of C and N isotope analysis from the mule. — **Tab. 6.** Drnholec - Pod sýpkou. Výsledky izotopových analýz C a N z muly.

-22 to -30‰, for C4 it is -9 to -16‰. C3 plants include growing trees, fruit trees or rice, C4 plants are all cereals and grasses.

## Methodology

Carbon and nitrogen isotope analyses were conducted at the Center for Applied Isotope Studies, University of Georgia (USA). The methodology used for dating  $^{14}\text{C}$  was used for the assay (Stafford – Brendel – Duhamel 1988). The bone was cleaned using an ultrasonic bath. After cleaning, the dried bone was gently crushed to small fragments. The chemically cleaned sample was then reacted under vacuum with 1N HCl to dissolve the bone mineral and release carbon dioxide from bioapatite. The residue was filtered, rinsed with deionized water and under slightly acidic conditions (pH = 3) heated at 80 °C for 6 hours to dissolve collagen and leave humic substances in the precipitate. The collagen solution was then filtered to isolate pure collagen and dried out. The dried collagen was combusted at 575 °C in an evacuated/sealed Pyrex ampoule in the presence of CuO. The sample  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  were measured using a stable isotope ratio mass spectrometer MAT 251 and expressed as  $\delta^{13}\text{C}$  with respect to PDB, with an error of less than 0.1‰,  $\delta^{15}\text{N}$  with respect to atmospheric air nitrogen with an error of less than 0.2‰.

Based on these dates (Tab. 6), it can be concluded that the mule consumed C3 plants, mainly grass, but lived in a fairly dry environment with less rainfall; in a steppe-like landscape (Fig. 30 and 31). Its diet was different from domestic horses of the Middle Ages, which were partly fed on cereals (Dejmal et al. 2014; Dvořáková 2007) and classical antiquity when their diet was enriched with wheat products (bread), legumes and even with wine and beer (Donaghy 2012).

## Radiocarbon dating

In an effort to fix the calendar dating of the cemetery, seven samples for radiocarbon dating were taken – a single sample from each inhumation. Human cremation remains from the graves H 801 and H 802 remained unsampled. Samples were prepared and measured at the Poznań Radiocarbon Laboratory. The resulting values are calibrated and modeled in OxCal (Bronk Ramsey 2009) using the IntCal2020 atmospheric calibration curve (Reimer et al. 2020). Bone collagen levels are between 2.6 and 9.6% and can therefore be considered reliable.

The measured values are expressed in Tab. 7. After calibration, the values show a very large variance as a result of the shape of the calibration curve due to the extensive plateau with a span of ca. 100 years in the

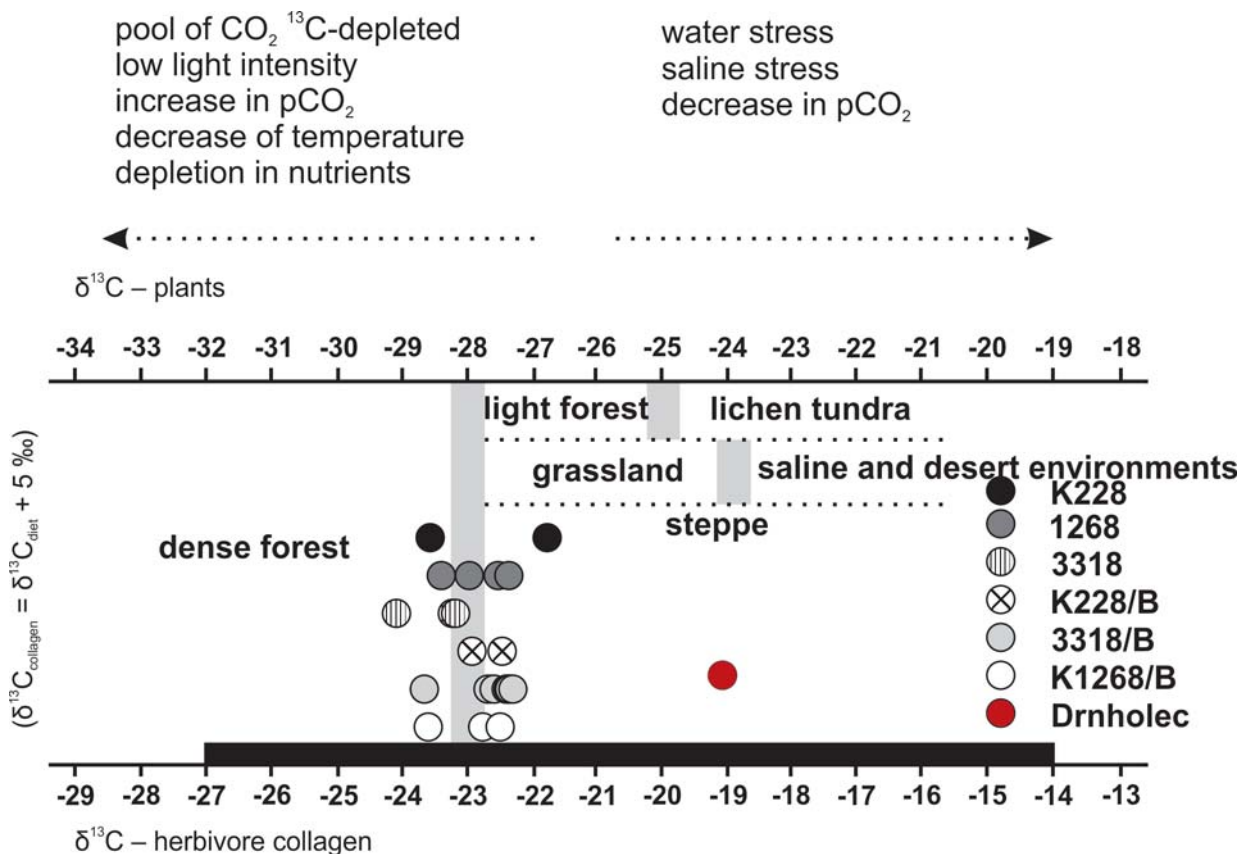


Fig. 30. The ratio of the carbon isotopes in the equine skeleton compared with medieval horses — Obr. 30. Poměr izotopu uhlíku v kostře muly v porovnání s koňmi ze středověku.

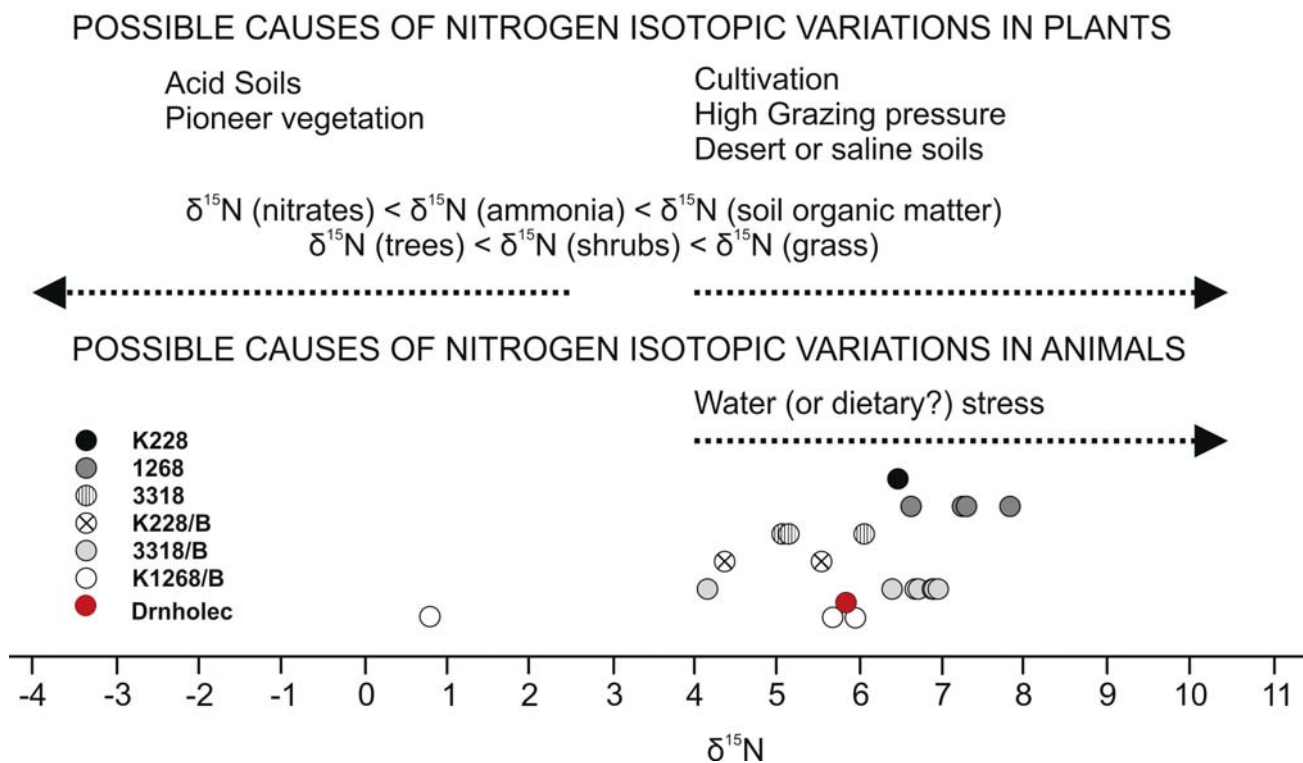


Fig. 31. The ratio of the isotopes of nitrogen in the mule skeleton compared with medieval horses — Obr. 31. Poměr izotopu dusíku v kostře muly v porovnání s koňmi ze středověku.

**Tab. 7.** Drnholec - Pod sýpkou. Radiocarbon dates. — **Tab. 7.** Drnholec - Pod sýpkou. Radiocarbonová data.

Grave	Sample number	<sup>14</sup> C age (BP)	Material	N (%)	C (%)	Collagen (%)
H 800	Poz-99759	1530 ± 35	human bone	2.3	5.6	5.5
H 801	Poz-99760	1635 ± 35	human bone	2.7	5.5	9.6
H 802	Poz-99761	1605 ± 35	human bone	2.7	5.8	8.7
H 803	Poz-99762	1615 ± 35	human bone	0.6	2.6	4.5
H 804	Poz-99763	1600 ± 35	human bone	1.2	3.0	2.6
H 805	Poz-99764	1640 ± 40	human bone	3.4	7.4	7.4
H 806	Poz-99766	1605 ± 35	human bone	0.6	2.2	3.7

range of approximately 420 to 520 A.D. Taking into account the 68% probability, the individual calibrated values from the Drnholec burial ground are scattered between 346 to 580 A.D.

Assuming that funeral activities are a manifestation of single-phase activity, a Phase model was performed in OxCal for a better understanding of the beginning and end, where individual dates is supplemented by constraints based on the knowledge of historical Langobards' movement dates (Fig. 32). Their arrival in South Moravia and the north of Lower Austria shouldn't take place before A.D. 480. The Langobards' departure from the region was taken as the final limitation of the dating model: A.D. 546 is when the Langobards colonised Pannonia. This event is very extensive and it can therefore be assumed that the area north of the Danube was evacuated (Kaizer et al. 2019, 1659). The grave goods of the studied burial site clearly refer to the typological group of artefacts associated with Langobards, so there is no reason to address the dispersion of calibrated dates at the beginning of the Migration Period.

According to the model, the start interval in Drnholec is between A.D. 480–510 and the end interval is between A.D. 507–537, using 68% probability. Agreement level of the model is sufficient ( $A_{\text{model}} = 88\%$ ).

For comparison with other Langobardian cemeteries in the surrounding area, the radiocarbon dates are available mainly from Lower Austrian cemeteries. In Moravia only four graves at Lužice were dated by <sup>14</sup>C method (Stadler et al. 2003; Kaizer et al. 2019). All the known dates so far were provided by the Vienna Environmental Research Accelerator, the values from Drnholec are the first from a different lab.

In terms of chronology, the burial ground in Drnholec corresponds to the 4<sup>th</sup> phase of the Migration Period according to Kaizer's model (Kaizer et al. 2019, fig. 2), which is also related to the earliest presence of Langobards in the Middle Danube Region. From the point of view of the relationship of absolute dating and the typology of artefacts, it is important to mention the finding of identically shaped so-called bronze 'keys' in Drnholec and Lužice, which probably came from the same casting mold (see above). Both of these burial grounds fall within the same time horizon based on modeled <sup>14</sup>C dates.

## Discussion of results and further perspectives

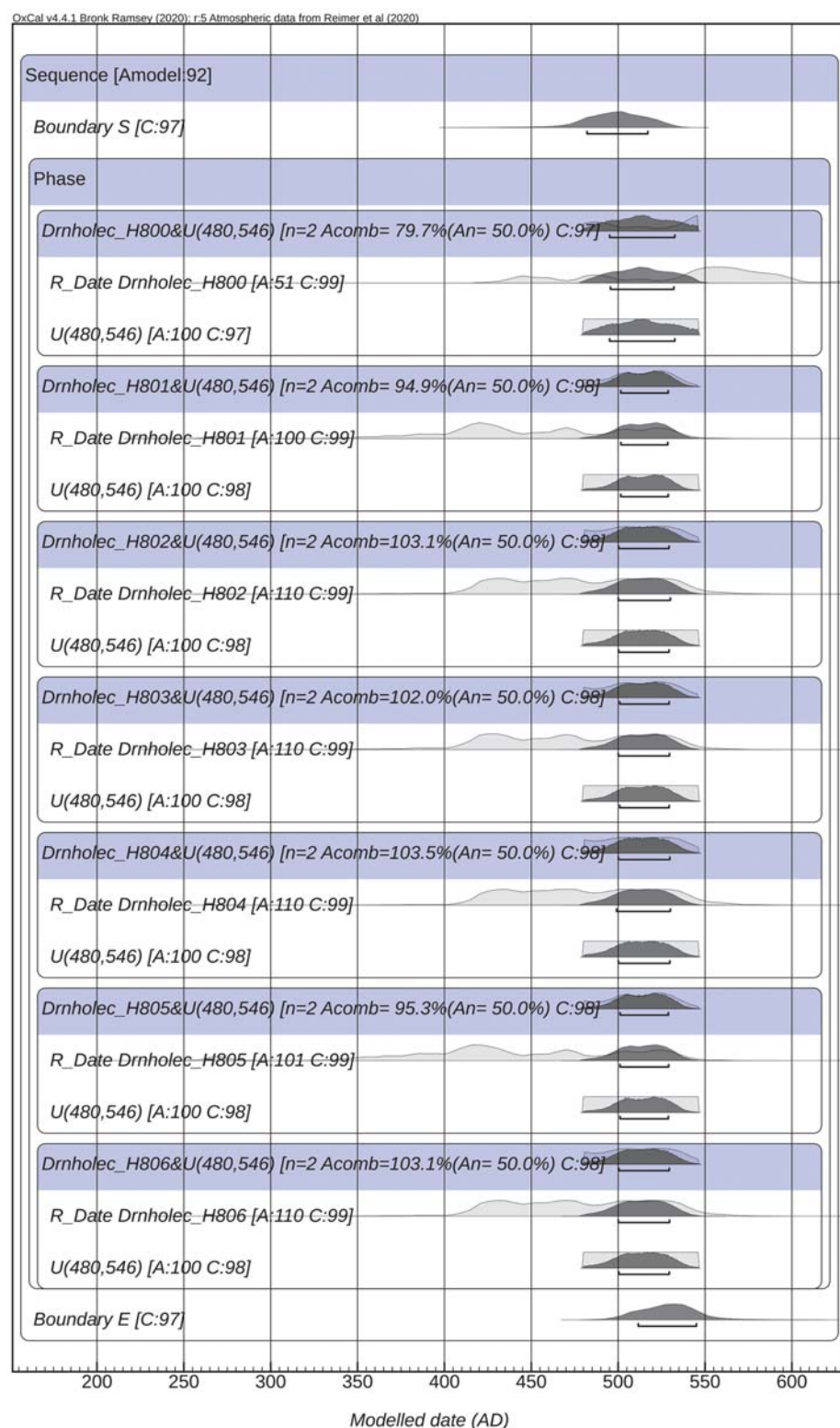
Is the burial ground Langobardian? Are the buried individuals Langobards? The questions are not so sim-

ple and cannot be answered automatically. On the basis of typological analysis of the material culture, it can be stated that the studied individuals are what traditional scholarship defines as Langobards, in terms of characteristics of material culture, and as historical Langobards. There are a few graves that cannot be automatically attributed to the Langobard material culture due to absence of grave goods or the presence of non-typical artefacts but all the grave pits are identically orientated, the individuals share the same body position and orientation. It seems that all graves are part of an organized cemetery.

Although the goods of other graves also included artefacts with comparanda in other than Middle Danube region, it was always only a single object accompanied by other finds, which are commonly found in Langobard cemeteries. The Drnholec burial ground is a typical cemetery according to the material culture contained in the graves and the burial rite in general. In terms of ethnic identity we cannot provide any information since this kind of identity is more based on sharing stories, tales and oral history than data based evidence.

For the purpose of chronology, the cemetery was approached as a single context. The validity of such an approach is supported by the homogeneity of the material culture, and the spatial relationships of the single graves. For dating of the cemetery, the radiocarbon dating method and typo-chronological analysis were used and combined. It can be stated that both views on chronology are not mutually exclusive, but neither do they explicitly confirm each other. While in the analysis of the material culture typology, we conclude that the studied unit should be dated in the maximum range of A.D. 510–550, the analysis of radiocarbon dates show that the unit is earlier and its date should fall in the interval A.D. 476–537. When modeling dates, we used constraints based on historical information about Langobard presence in the region. While the constraint at the beginning of the interval significantly affected the interpretation of the calibrated values, the limitations at the end did not have much effect on the shape of the modeled curve, except for one date. From the point of view of the modeling of the radiocarbon dates, it is unlikely that the cemetery could be dated to the middle of the 6<sup>th</sup> century.

Which regions are reflected in the material culture? The majority of the recovered artefacts can be classified as characteristic Langobardian artefacts typical for the Middle Danube region of the first half of the 6<sup>th</sup> century. Some artefacts also have parallels in Eastern Bohemia



**Fig. 32.** Drnholec - Pod sýpkou. Phase model with individual calibrated data. The constraints of modeling are based on the expected arrival and departure of Langobards. — **Obr. 32.** Drnholec - Pod sýpkou. Fázový model s jednotlivými kalibrovanými daty omezenými na základě předpokládaného příchodu a odchodu Langobardů.

where the occupation is estimated to be earlier than in Moravia and Lower Austria, but so far we have no radiocarbon dates to prove this hypothesis.

A few exceptions are represented by the bone buckles and the bronze buckle of grave H 805 which may refer to south-western Germany or south-eastern Europe. A third such artefact is a characteristic Thuringian bowl from grave H 801.

### Social structure of the buried community

Despite the limited number of identified, recovered and analysed graves, it is possible to indicate some features of the early 6<sup>th</sup> century social structures.

Two of the excavated graves (H 800 and H 806) were not reopened after the initial burial. The common feature of these two graves is that they are burials of indi-



viduals of probably lower social status; a child and a man suffering from a lifelong physical disability and probably aesthetic disadvantage. The child had no grave goods and the affected individual was equipped with only two everyday items.

The secondary opening of graves took place at a relatively short time after the burial, and the manner of the re-openings indicates that they were executed by those who knew exactly what was deposited in the grave pit and that it was worth removal; most probably living members of the deceased's family. They also knew when the burial took place and could estimate the time when the decomposition of connective tissues occurred. Thus it can be deduced that no whole bodies were moved but only single bones. Given this particular time lapse between inhumation and re-opening it is highly unlikely that these secondary funeral practices were associated with robbery by external actors aimed merely to enrich. However, the hypothesis that the survivors may have actually needed to retrieve valuable items, remains plausible.

Secondary interventions are also linked to the issue of the addition of the burned human bones to the graves. They were found in Drnholec in two cases, each in the context of the secondary intervention. However, due to their fragmentation and scattering, burnt bones are difficult to contextualize. It is probable that they reached the grave only secondarily. This highly interesting practice has never been studied in the depth which it deserves. Undoubtedly, it demonstrates very specific ideas within the given community about the conditions under which the grave may (or must) be opened and closed. It should be emphasized that, in the case of Drnholec, the burnt bones secondarily placed in the grave, did not belong to the individuals originally buried there.

Some indication of social stratification, is provided by the differences in grave equipment, evident despite significant secondary disturbances. In graves H 802 and H 803, rich grave goods were noted. In grave H 801 the presence of the mule, buried in its entirety, leads to the presumption that the deceased possessed a higher social status. Although the burials of equines (horses, donkeys, hybrids) do not represent an exception in the Migration Period cemeteries, this funeral habit suggests some exceptionality of the buried individual (Tejral 2009; Loskotová 2013, 333; Kováčová 2016, 192). A complex analysis of equine burials in the Middle Danube region, inspired by the recovery of the mule in Drnholec, is in process, and here we only present the first results which we consider critical to further assumptions concerning the importance of equine burials.

Apart from Drnholec, equine burials were found in Šakvice (Novotný 1974), Lužice (Klanica – Klanicová 2011), Holubice (Čižmář 2011), and in Žuráň tumulus (Pouliík 1995; Tejral 2009), in the immediate vicinity. In the wider Middle Danube region, there were about two dozens other sites (Fig. 33). Both this regions, and Bohemia with the small concentration of the equine burials (Fig. 33), seems to be a "horse" periphery (Fig. 34). None of those concentrations can be compared to those in the Upper Danube, Thuringia, and north-western

Europe, where the horse was probably part of the activities of the Merovingian aristocrats and their allies (Kontry – Okulicz-Kozaryn – Pietrzak 2011, 127).

The burial of a horse beside the man is commonly interpreted as a badge of an individual's social status and his affiliation to the elite (Tejral 2009; Loskotová 2013; Kováčová 2016; Cross 2011). J. Tejral (2009) classifies these burials as princely graves (Fürstengräber). The horse (or horses, sometimes with a dog and deer, e.g. Šakvice, grave 28, see Tejral 2009) is almost exclusively related to male burials with some exceptions. For example in Hauskirchen, a buried woman was accompanied by a wagon and horses (Lauer mann – Adler 2008).

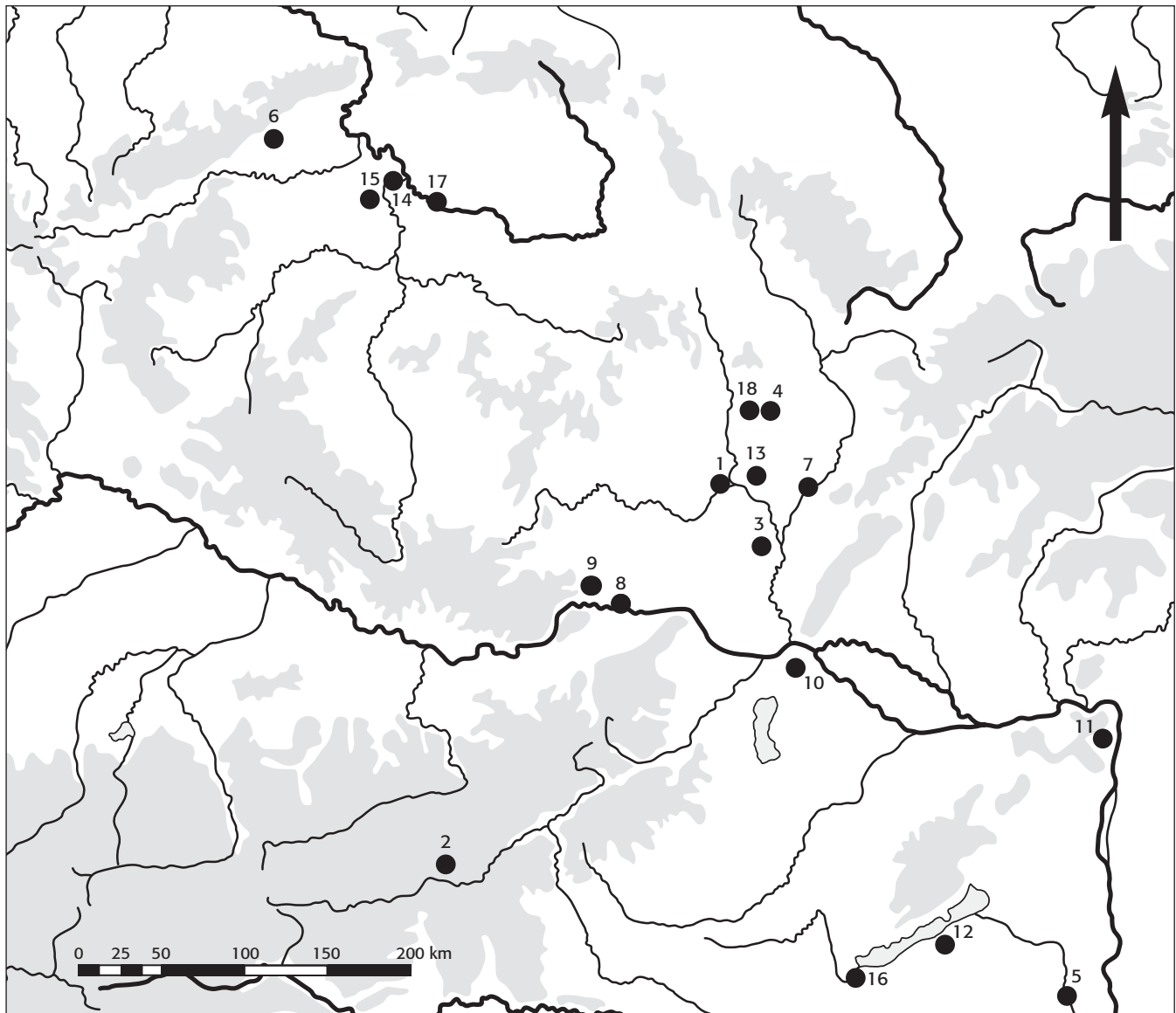
The grave with a horse is usually located in a larger grave pit, often in an elaborate chamber faced with wood, with columns or reinforced by stones, e.g. in Velké Přílepy - Kamýk (Svoboda 1965), Šakvice, Žuráň (Tejral 2009).

The horse lies on its side next to the buried individual (Záluží u Čelákovic, Svoboda 1965, 136), sometimes with feet towards the deceased (Šakvice, grave 4, Tejral 2009), but this is not the rule. The grave from Velké Přílepy - Kamýk is specific: two horses lie opposite each other with their feet in front of the entrance to the grave chamber built on a stone ramp (Svoboda 1965). Two horses and two horse skulls were found in grave 28 in Šakvice (Tejral 2009). In some graves, there is only a skull or, symbolically, a horse harness (Svoboda 1965, 137). Equine burial above the human body is rare. Such disposition was documented on the cemetery at Vörs (Sági 1964; Svoboda 1965, 137).

In many cases, it is impossible to observe the spatial relationship of the skeletons because there was a secondary intervention in the grave pit and disruption of the original burial positions. Equally complicated is the comparison with grave equipment, which is often marked by secondary intervention. In any case, all the graves with a horse are either robbed or rich.

However, in most burials with equids, the skeletal remains of these animals have not been studied in detail osteologically, and therefore it has not always been determined whether they were indeed horses, donkeys, or hybrids. E.g. Svoboda (1965, 136) states that in the grave No. 18/XIII in Záluží u Čelákovic, a smaller horse was buried. The horses of that period, even the warrior stallions, were small from our point of view (124–144 cm tall in Nowinka, Kobryň – Świeżyński 2011, 159). Mules could be the same size, or taller (height of the mule of the grave H 801 was 156 cm). Donkeys also could be in the lower part of that scale.

The burial of a horse is a reason to consider the buried person as exceptional in the social network of his/her community. This is because the buried horse parts (e.g. skulls) or harness can be considered as grave goods. The inclusion of mules or donkeys must be considered similarly as these were not simply heavy work animals. Their uses were multiple and extensive. This also applies to the horse itself (Howe 2014). In the areas where these animals play the role of essential transport animals (e.g. the Greek islands, Turkey, the Middle East, the southern Balkans), they are not rigidly divided



**Fig. 33.** Horse burials in Middle Danube region and Bohemia. — **Obr. 33.** Pohřby koní ve středním Podunají a Čechách: **1** – Drnholec; **2** – Freunsdorf (Blesl 2005); **3** – Hauskirchen (Lauermann – Adler 2008); **4** – Holubice (Čížmář 2011); **5** – Kajdacs (Bóna 1976); **6** – Konobřez (Korený 2005); **7** – Lužice (Klanica – Klanicová 2011); **8** – Maria Ponsee (Adler 1966; 1969; 1972); **9** – Rohrendorf (Tejral 2009); **10** – Rusovce (Schmidtová – Ruttkay 2007; 2008); **11** – Szentendre (Bóna – Horváth 2009); **12** – Szólád (Freeden – Vida 2007); **13** – Šakvice (Novotný 1974; Kratochvíl 1980; Tejral 1980); **14** – Veliká Ves (Svoboda 1965; Korený 2005); **15** – Velké Přilepy – Kamýk (Svoboda 1965; Korený 2005); **16** – Vörs (Sági 1964); **17** – Záluží u Čelákovíc (Svoboda 1965; Korený 2005); **18** – Žuráh (Poullík 1995; Tejral 2009).

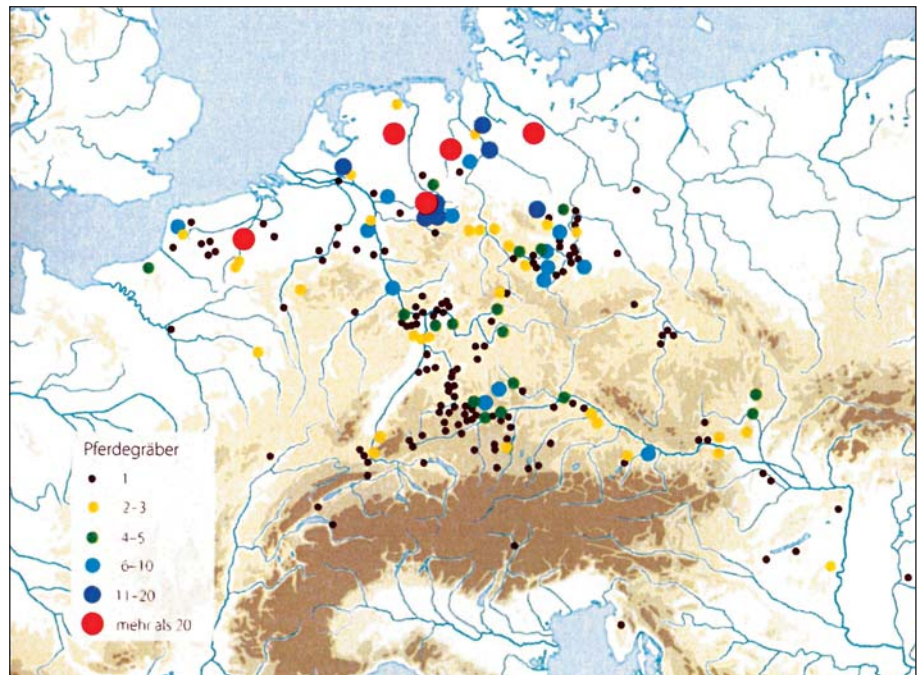
into equestrian and non-equestrian animals in everyday use (Mitchell 2018, 108 onwards and 148 onwards). They are very widely used, as evidenced by a number of iconographic sources for late antiquity (Howe 2014). The equine was a very hard working animal, expensive (e.g. in Byzantium of the 4<sup>th</sup>–7<sup>th</sup> century, a donkey costs 3–8 solidi, a war horse 18–23 solidi, a pig ½ solidus, see Morrisson – Cheynet 2002, 840), and to sacrifice its life to be interred with its owner, however justified, underlines the importance of the buried individual. Therefore the mule from grave H 801 testifies to the privileged position of the man buried under it.

On the other hand, it is clear that despite some differences in the number and type of grave goods buried (and preserved) in each grave, the burials were not categorically socially different. They all shared the same

orientation of the grave pit, probably the position of the grave was not exclusive and among the grave equipment, only parts of the costume (including weapons) and everyday vessels were found. The possibility that other valuable items were removed remains an open question.

The grave goods include gender-specific objects, among which we include the so-called bronze keys (Tab. 8), and glass beads, which are typically found in women's graves. On the other hand, the man's grave H 803 was characterized by sword, spear, and silicite artefacts. The implication that he was a warrior, and his grave equipment had more than just symbolic value, is supported by the anthropological analyses, which point to significant muscle attachments on the arms and a healed fracture of the hand bones.

**Fig. 34.** Horse burials of Late Migration Period north of the Alps (after Tejral 2009, 131, Abb. 17). — **Obr. 34.** Hroby koní pozdní doby stěhování národů severně od Alp (podle Tejral 2009, 131, Abb. 17).



Number	Site	Grave	Number of items	Sex (osteological)	Sex (archaeological)	Age	Period	Dating	Bibliography
1	Lužice	75	2	F	F?	30	E	500–560	Klanica – Klanicová 2011
2	Lužice	95	2	F	F	20–24	E	500–560	Klanica – Klanicová 2011
3	Lužice	108	2	?	F	7–9	MD3/E	470–500/510	Klanica – Klanicová 2011
4	Lužice	116	4	F	F	50	E	500–560	Klanica – Klanicová 2011
5	Klučov	18/51	2	?	F?	?	E	525–550	Korený – Kudrnáč 2003
6	Záluží	11/VII	2	?	F	?			Svoboda 1965
7	Záluží	39/XXXV	2	F	F?	45–55			Svoboda 1965
8	Šaratice	6/XLVIII	1		F		E	500/510–550	Tejral 1975
9	Velké Pavlovice	3	1	?+?	F+F		E	510–560	Tejral 1975
10	Rebešovice	22	1				E	500/510–540/550	Tejral 1975
11	Cerhenice	36	2	F?	F	14–19	E?	?	unpublished

**Tab. 8.** Bronze 'keys' in Moravian and Bohemian cemeteries. — **Tab. 8.** Bronzové „klíče“ z moravských a českých pohřebišť.

Significant differences, although statistically inconclusive, were found concerning the composition of the diet through the analysis of dental microwear which showed that there was a higher rate of meat consumption of the buried men than women.

### Importance of the cemetery

Although the Drnholec cemetery is not a large necropolis with hundreds of graves, nor were members of the elite buried there, it is strategic to investigate such cemeteries and to pay them the same attention, including application of a systematically compiled variety of methods.

Albeit there exist now many varied methods which can be employed (i.e.  $^{14}\text{C}$ , isotopic studies, aDNA analysis) and can contribute to our knowledge about various aspects of life in ancient societies, they are not mobilized systematically, and it is rare for a systematically

selected set of them to be applied to the study of a cemetery such as this. There are only 15 projects to date, which managed to combine more than two scientific analytical methods (Melicherová 2019). There may be several reasons, but among them would be the problematic way in which project grants are allocated and the extreme difficulty encountered when planning research work for the extended time which is needed for more complicated sampling, analysis and evaluation.

Therefore, the authors decided that the Drnholec cemetery would be, step by step, subjected to a variety of analytical methods and, in this first stage, anthropology, paleopathology, zooarchaeology and radiocarbon dating have been employed, along with standard archaeological analysis.

Other analyses are planned or already in process. Nevertheless, we considered it necessary to publish this synthesis of the first phase of the project, and to share the data obtained, together with our conclusions and considerations.

## Perspectives of further research

Despite the fact that the analysis of the given grave complex, as conceived by the author's team, has provided a lot of new information, we definitely do not consider the topic exhausted.

We consider it problematic to overestimate the efficacy of typology, particularly wherein individual sets of objects or even individual artefacts are often associated with ethnicities or otherwise closed societies. Typology is still broadly accepted as a definitive method and frequently used without due consideration of other evidence.

As *L. Melicherová (2019)* proved in her diploma thesis, the combination of archaeological analyses and scientific analyses, particularly for problematic times such as the Migration Period, can be highly beneficial in illuminating many aspects of human life and of the world as it existed in the past.

Therefore, other analyses are planned, some of them in process. We aim to answer the question of the autochthony or not of the buried individuals, and to determine their origin. Detailed diet studies are on schedule. The DNA analyses will be examining the relationship of the buried individuals and the relation of the group to the wider regional or continental context. Petrographic analysis will deal with the origin of pottery collection.

## Conclusion

The small part of a necropolis with seven inhumated individuals and two cremations discovered in Drnholec - Pod sýpkou represents an example of the efficiency of using the interdisciplinary approach to the problems and questions of the Migration Period, mainly related to so-called Langobards. Typology of archaeological material, anthropology and paleopathology, zooarchaeology, analysis of stable isotopes, various microscopical methods, XRF, radiocarbon dating and other partial methods, were applied in order to address questions related to the archaeology and history of the end of the Migration Period in the region of Southern Moravia and beyond. The cemetery, dated into the late 5<sup>th</sup>/early 6<sup>th</sup> century, represents a small group of non-elite individuals, affected by some serious diseases, caring for a disabled person and sharing the same burial customs with their neighbors in a broad region deemed Langobardian by archaeologists following literary sources. The grave goods connect this tiny group with the neighboring regions of Lower Austria, Pannonia, and Bohemia, and, further afield, with central and Southern Germany, France, with regions of contemporary Romania and possibly the Mediterranean. The authors aim to provoke a debate on traditional interpretation models of the period and accent the need for a broadminded interdisciplinary approach to each excavated cemetery.

English by Věra Klontza-Jaková and Sue Bridgford

## Souhrn

„Všechno je úplně jasné“ by bylo možné říci bez velkého zaváhání: malá skupina hrobů v tradiční sídelní oblasti jižní Moravy, průměrná, spíše chudší hrobová výbava sestávající z artefaktů typic-

kých a obecně přijímaných jako „langobardské“, případně jako me-rovejské (spojované s historickými Langobardy; *Tejral 2012a*) a datovatelných do fází 4 až 5 doby stěhování národů (*Tejral 2005; 2007*), nebo fáze E2 (*Droberjar 2008*). Během analýzy materiálu z lokality Drnholec - Pod sýpkou jsme si uvědomili, jak aktuální a urgentní je potřeba jasné definice „typologické“ skupiny artefaktů a diskuse na téma archeologické kultury, kmene, etnicity doby stěhování národů a jak složitá je problematika identifikace jednotlivých artefaktů s obecným pojmem archeologické kultury.

Studium Langobardů je velmi komplikované, což zmiňují prakticky všichni autoři bez výjimky (souhrnně např. *Tejral 2012a*). Není možné jednoznačně definovat a identifikovat základní archeologické charakteristiky, včetně původu Langobardů a jejich etnogeneze (*De Vinco 2008, 277*), etnicity, otevřenosti nebo uzavřenosti jejich societ i kultury jako takové, nebo co se stalo s těmi, kteří se neúčastnili migrace do Panonie a následně severní Itálie.

I doba jejich pobytu ve střední Evropě je nejasná. Díky intenzivnímu systematickému studiu archeologického materiálu (k historii bádání: *Droberjar 2013, 165–166; Tejral 2012a*) jsou typochronologické škály detailně propracovány. Klasifikace chronologicko-typologických vztahů nepředstavuje vážnější problém, ale otázkou zůstává, jakou roli hraje hmotná kultura spojená s pohřbíváním? Jakou chronologickou přesnost může poskytnout? Jak vyjadřuje genderovou identitu? Jak odráží sociální status pohřbeného? Všechny tyto dílčí otázky jsou součástí mnohem obecnější problematiky směřující k řešení historických otázek, které by rozhodně neměly zůstat mimo vědecký zájem archeologie.

Při studiu daného archeologického souboru jsme se rozhodli použít kombinaci více metod: 1. analýzy materiální kultury s důrazem na chronologii a vztahy k ostatním regionům; 2. radiokarbonového datování; 3. antropologické a paleopatologické analýzy směřující k otázkám zdravotního stavu, stravovacích zvyklostí a sociálního složení skupiny; 4. paleozoologické analýzy opět mířící na sociální složení společnosti. Přesto, že byla získána řada detailních informací, autorský tým nepovažuje zkoumání pohřebišť v Drnholci za uzavřené; přistoupí k dalším analýzám, z nichž některé již byly iniciovány.

K problému langobardské identity je obvykle přistupováno se snahou vyřešit otázku jejich postupu přes kontinent, „jít po jejich stopách“ z pravlasti do oblastí středního Podunají. Tento problém nebyl dosud archeologicky vyřešen. Existují dvě převládající interpretační hypotézy, které doprovází intenzivní diskuse. Obvykle jsou předpokládány dvě vlny migrace: tzv. durynská a langobardská. Nové obyvatelstvo buď postupovalo přes Sasko a Čechy na jižní Moravu (*Droberjar 2005, 160–161*), nebo nejprve došlo do Rugilandu, jehož část by měla být na jižní Moravě a následně po období určité stabilizace došlo k postupu na české území (*Tejral 1993, 494; Svoboda 1965, 9–10*). Uvádí se i teorie kontinuity osídlení Moravy v 5. století n. l. Ani Rugiland, oblast zmiňovaná písemnými prameny, není jednoznačně definován. Někteří autoři ho umísťují mimo Moravu do Dolního Rakouska a Panonské nížiny (*Werner 1962*). Hlavní problém však představuje identifikace Langobardů na základě materiální kultury.

Dalším problematickým místem je snaha propojit archeologické a literární prameny, ke kterým bývá přistupováno nekriticky. Jedná se o texty, které vznikly s časovým odstupem, ve specifických podmínkách a regionech, měly specifický cíl a účel (*Heath 2017, 15–16*) a nesou veškeré charakteristiky raně středověkých pramenů (*Goffart 1988, 329* a dále; *Wyckham 1989, 29*).

Otevřenou otázkou zůstává také široká problematika jazyka a mocenských, sociálních a ekonomických struktur. V současnosti nejpřímější výsledky vycházejí z interdisciplinárních projektů (Lužice: *Klanica – Klanicová 2011*; Rusovce: *Schmidtová – Ruttkay 2008*; Hegykő: *Bóna – Horváth 2009*; Szólád: *Alt et al. 2014; Vida et al. 2017*).

V Drnholci bylo prozkoumáno 7 hrobů, což by mohlo být považováno za zanedbatelný počet ve srovnání s velkými nekropolemi v širším regionu jako např. Holubice (105 hrobů – *Tejral 2011*) nebo Kyjov (240 hrobů – *Šmerda 2011*). Avšak studium i menšího počtu hrobů může přinést důležité výsledky a posunout či změnit směr archeologického bádání.

Poloha Drnholec - Pod sýpkou byla objevena v souvislosti se stavbou rodinných domů (obr. 1) v roce 2014. Archeologický dohled probíhal do roku 2019 (Trampota 2018) a identifikoval hroby na dvou parcelách (č. 1760/58, č. 1760/60). Na parcele č. 1760/57 byl zachycen mělký žlábek (obr. 2). Dvě sousední parcely byly překryty stavbou bez archeologického dohledu (č. 1760/59 a č. 1760/124; obr. 3).

Lokalita byla dosud neznámá a kromě zde prezentovaných hrobů doby stěhování národů nebyly evidovány jiné nálezy. Nejbližší archeologickou lokalitou je sídliště doby bronzové, vzdálené zhruba 200 m jižněji (Trampota 2016).

Zkoumaná poloha se nachází na soutoku Litobratřického potoka a Dyje pod bezejmenným, ale výrazným vrchem (192 m n. m.). Nadmořská výška objeveného pohřebiště je okolo 184 m n. m. Geograficky leží na hraně Olbramovické pahorkatiny, v údolí Dyje (Demek – Mackovčín 2006). Geologické podloží tvoří třetihorní jíly Karpatské předhlubně.

Hroby byly prozkoumány v rámci záchranného archeologického výzkumu. Jednotlivé hrobové jámy byly odkrývány po 20 cm mechanických vrstvách až na úroveň rakve nebo kostry. Následně došlo k preparaci. Celý proces byl fotograficky, fotogrammetricky a kresebně (profily hrobových jam) dokumentován.

Na parcele č. 1760/58 byly identifikovány hroby H 800, H 801, H 802, H 803.

Hrob H 800 (obr. 4 a 5) tvořila oválná jáma (125 x 150 cm) o hloubce 10 cm od skryté úrovně, 60 cm od původního terénu. Obsahoval dětskou kostru v natažené poloze, orientovanou ve směru západ – východ.

Hrob H 801 (obr. 6, 7, 8) měl nepravidelný čtyřúhelníkový tvar (238 x 47 cm) o hloubce 120–136 cm od skryté úrovně. Byla zde uložena kostra muže v natažené poloze ležící ve směru západ – východ. Její značná část byla porušena a přemístěna při sekundárním zásahu. Byla identifikována šachta mířící na střed těla. V jejím zásypu byly spálené kosti pocházející z jiného jedince. Kromě dospělého muže byla v hrobě uložena mula. Z hrobu pochází dvě železné přezky a keramická nádoba.

Hrob H 802 (obr. 9, 10, 11) tvořila poměrně rozsáhlá obdélníková hrobová jáma se zaoblenými kratšími stěnami (375–336 x 114 cm), hluboká 200 cm od přirozeného terénu. Ženská kostra v natažené poloze, původně uložená v rakvi ve směru západ – východ, byla porušena sekundárním zásahem. Z hrobové výbavy byl identifikován parohový hřeben, skleněné korálky, bronzová přezka, bronzový nožík, dva bronzové tzv. klíče spojené železným kroužkem a fragment bronzového plechu. Zásyp sekundární šachty obsahoval keramické zlomky.

Hrob H 803 (obr. 12, 13, 14) se nacházel 130 cm od skryté úrovně a 160 cm od původního povrchu. Měl rozměry 323–295 x 84 cm a ukrýval kostru muže v natažené poloze, původně v rakvi. Podlouhlá jáma měla zaoblené kratší stěny se schůdkem na kratší straně. Většina kostry byla výrazně přemístěna sekundárním zásahem. Přesto byl v hrobové jámě nalezen železný hrot kopí, železný meč se stopami dřevěné pochvy, rohový ústěp, zahnutý železný předmět, železný nůž a parohový hřeben. Okolo rakve bylo nalezeno 5 železných trnů a za hlavou, mimo rakev, keramická nádoba, která obsahovala zlomky vaječné skořápky.

Na parcele č. 1760/60 byly identifikovány hroby H 804, H 805, H 806.

Hrob H 804 (obr. 15, 16) byl částečně poničen stavbou. Měl šířku 80 cm, nerekonstruovatelnou délku a hloubku 60 cm od skryté úrovně, 120 cm od původního povrchu. Patrně ženská kostra orientovaná ve směru západ – východ byla výrazně přemístěna sekundárním zásahem. Jediným nálezem byl železný „trn“.

Hrob H 805 (obr. 15, 17, 18) o rozměrech 330 x 96 cm, v hloubce 100 cm od skrytky a 160 cm od původního povrchu, obsahoval výrazně sekundárně přemístěnou kostru ženy, původně uloženou v dřevěné rakvi. Z hrobové výbavy se zachovala bronzová přezka a malý zlomek kovového zdobeného, ale neidentifikovatelného předmětu. Výplň hrobové jámy i šachta obsahovaly četné keramické zlomky.

Hrob H 806 (obr. 19, 20) o velikosti 180 x 72 cm, 60 hluboko od skrytého povrchu a dalších 60 cm od původního terénu, obsahoval

pohřeb muže v rakvi orientovaného západ – východ. Pohřeb nebyl sekundárně narušen, ale část hrobové jámy byla porušena stavbou. Hrobovou výbavu tvořila kostěná, nebo parohová přezka a fragment neidentifikovatelného železného předmětu.

Na parcele č. 1760/57 byl identifikován mělký žlábek (obj. 501; obr. 21), který byl prozkoumán v délce 320 cm. Byl 50 cm široký, s okrouhlým dnem. Jeho výplň obsahovala keramické zlomky, které by mohly patřit do doby stěhování národů.

Obecný popis hrobových přídavků je uveden v tab. 1. Typochronologická analýza artefaktů je v článku prezentována po jednotlivých typech a podle použitého materiálu.

Keramické nádoby a zlomky byly nalezeny ve všech hrobech kromě H 800, ale pouze v hrobech H 801, H 802 a H 803 byly uloženy typické nádoby. Nejbohatší souprava pochází z hrobu H 801.

Jedinou nádobou tvořenou na kruhu je tzv. durynská mísa (obr. 6: 2), forma 2 podle Hansenové (Hansen 2004, 91–92). Nejbližší analogie pochází z Lochenic I (Zeman 1990, Abb. 28: 1) a z Unterrohrenndorfu (Tejral 2009, Abb. 37: 16).

V ruce vyráběnou keramiku reprezentuje hrnec s mírně zataženým okrajem (obr. 6: 6) z hrobu H 801 a mísa se zataženým okrajem (obr. 12: 7) z hrobu H 803. Obě představují typickou labsko-germánskou keramiku, která se často nachází na langobardských pohřebištích středního Podunají (Šmerda 2013, 273). Veškerá ostatní keramika je výrazně fragmentární.

Všechny nádoby byly na základě makroskopického ohledání vyrobeny z identické hlíny oštěněné jemnými příměsemi patrně křemene a břidlice. I nádoba točená na kruhu se jeví jako vyrobená ze stejné hlíny, která odpovídá lokální geologii.

Celkem bylo nalezeno 11 skleněných korálků, všechny v hrobě H 802 (obr. 9: 2, 9: 5). Malé korálky jsou patrně nejčastějším typem skleněných perel z langobardských pohřebišť na středním Dunaji. Větší, rýhované jsou méně běžné s nejbližšími analogiemi z hrobu 44 v Lužici (Klanica – Klanicová 2011, 249, Taf. 46: 44: 1) a z hrobu 73 v Bezenye (Bóna – Horváth 2009, Taf. 1: 73).

Dva bronzové „klíče“ byly nalezeny v hrobě H 802 (obr. 9: 4, 6). Původně byly spojeny železným kroužkem. Téměř dokonale přesná analogie byla identifikována v hrobě 95 v Lužici (Klanica – Klanicová 2011, 288, Taf. 73: 15, 16). Je dokonce možné uvažovat o odlišných z téže formy.

Dva trojdielné parohové/kostěné hřebeny pocházejí z výbavy hrobů H 802 a H 803 a jsou typické pro raně merovejská pohřebiště středního Německa a Maďarska. Pro hřeben z hrobu H 802 (obr. 9: 3) je možné najít analogie v Dolním Rakousku ve Straßburgu, Kr. Eisleben (Schmidt 1961, Abb. 7: C–G), v Obermöllern, Kr. Naumburg (Schmidt 1961, Taf. 57: A, B), v Čechách, např. v Lochenicích (Zeman 1990, obr. 35: 18, 38: 6), v Záluží u Čelákovic (Svoboda 1965, obr. CIII: 6, CVII: 5), na Moravě, např. v Boroticích (Stuchlík 2011, Taf. 2, hrob 9/IV; Taf. 4, hrob 13/X), v Holubicích (Čížmář 2011, Taf. 15, hrob 46), v Lužici (Klanica – Klanicová 2011, Taf. 63, hrob 71; Taf. 64, hrob 83), v Šakvicích (Tejral 1976, Abb. 18: 11), dále v Rakousku v Aspersdorfu (Adler 1978, Taf. 10: 5), v Hollabrunnu (Adler 1978, Taf. 18: 4, 5), ve Schwechat (Adler 1980, Taf. 5: 2) a v Maďarsku v Tamás (Bóna – Horváth 2009, Taf. 62: 13-1, 64: 20-3, 66: 24-4, 70: 40-4, 73: 35-2, 76: 53-2, 79: 52-1).

Hřeben z hrobu H 803 (obr. 12: 5) nese bohatší zdobení. Analogie pocházejí opět z Německa: např. Obermöllern, Kr. Naumburg (Schmidt 1961, Abb. 56: 9), z Čech: např. Jiřice u Mělníka (Svoboda 1965, obr. LXI: 13), Klučov (Korený – Kudrnáč 2003, obr. 8: 10), Lochenice (Zeman 1990, obr. 34: 8), Mochov (Zeman 1958, obr. 8: 2, 13: 8), Záluží u Čelákovic (Svoboda 1965, obr. CVIII: 8), z Moravy: např. Holubice (Čížmář 2011, Taf. 18, hrob 60), Lužice (Klanica – Klanicová 2011, Taf. 29, hrob 6), z Dolního Rakouska: Aspersdorf (Adler 1978, Taf. 4: 1) a z Maďarska: Szentendre (Bóna – Horváth 2009, Taf. 39: 16-3) a Tamás (Bóna – Horváth 2009, Taf. 72: 31-3, 78: 50-10).

Běžným nálezem jsou nože. V Drnholci byly nalezeny pouze dva, eventuálně tři kusy. Železný, téměř neidentifikovatelný nůž pochází z hrobu H 806 (obr. 19). Další železný nůž byl uložen v hrobě H 803 (obr. 12: 4). Malý bronzový nožík byl vyzvednut z hrobu H 802 (obr. 9: 7). Je atypický a žádná analogie k němu nebyla nalezena.

Z nekropole pochází také pět opaskových spon. V hrobě H 801 se našly dva exempláře (obr. 6: 1, 3). Jedná se o přezky zhruba oválného tvaru s analogiemi ve středním a jižním Německu (Hansen 2004, 72–73), ale také ve středním Podunají (Tejral 2005, 142). Přezka z hrobu H 802 je bronzová, oválného tvaru (obr. 9: 8) s analogiemi hlavně v Čechách: např. Záluží (Svoboda 1965, Tab. LXXXVII), Roudnice nad Labem - Hracholusky (Svoboda 1965, Tab. LXXVII: 5), Praha-Podbaba (Svoboda 1965, Tab. LXXIX: 3), a s dalšími na maďarském pohřebišti Hegykő – hroby 62 a 78 (Bóna – Horváth 2009, Taf. 13: 62-6, 19:78-1). Ale ani jedna z analogií však není úplně přesná. I další bronzová přezka z hrobu H 805 má specifický tvar (obr. 15). Velmi podobně pocházejí z alamanského prostředí, ale D. Quast (2006, 61) odkazuje na středomořské prostředí (Radulescu – Lungu 1989, 2584–2585, Fig. 18). Dvě další analogie byly identifikovány v dnešním Rumunsku (Alexandrescu 1966, Pl. 102: 16, Aurelian 1962, Fig. 20). I přezka z hrobu H 806 odkazuje na alamanské prostředí a to nejen tvarem, ale také materiálem (parohovina). Má obdélný tvar a je zdobená vyraženými/rytými kroužky se středem (obr. 19). Analogie je možné hledat na alamanském pohřebišti v Pleidelsheimu (Koch 2001, 308, Taf. 48: 10) a jinde v jižním Německu a Francii (Martin 1988).

V hrobě H 803 byl uložen železný meč a kopí (obr. 12: 6, 8). Meč (spathion) je 83 cm dlouhý. Svou délkou tak odpovídá délce spath 5.–7. století (Menghin 1983, 16). Bohužel absence konstrukčních a výzdobných prvků rukojeti meče a jeho pochvy neumožňuje bližší typochronologické určení. Kopí má listovitý tvar a krátkou tulej (Bóna – Horváth 2009, 184; Tejral 2005, 154).

Soubor mobilních artefaktů doplňuje několik kovových zlomků, jejichž identifikace je pro výraznou fragmentárnost problematická. Jmenujme alespoň zdobený bronzový plech z hrobu H 805 (obr. 15) s analogií z Lužice (Klanica – Klanicová 2011, Taf. 50: 53: 1, 2; 60: 67: 1, 2). Další železné fragmenty z hrobu H 803 (obr. 12: 1) mají pravděpodobně analogie v hrobě 52 v Lužici (Klanica – Klanicová 2011, Taf. 51: 14) nebo hrobě 49 v Tamási (Bóna – Horváth 2009, 164, Taf. 77: 5). Neidentifikovatelné kovové zlomky byly nalezeny v hrobech H 804, H 806.

Štípaná industrie je reprezentována třemi artefakty. Dva z neidentifikovatelné suroviny byly nalezeny v sekundární šachtě hrobu H 801. Jedná se o zlomek úštěpu a čepel. Třetí byl uložen v hrobě H 803. Jedná se o drobně retušovaný artefakt trojúhelníkového průřezu rohovce typu Krumlovský les (varieta II; obr. 12: 2), jehož zdroj je necelých 20 km od zkoumané lokality, ovšem vzhledem k jemné abrazi artefaktu na všech stěnách můžeme počítat i s jeho původem v říčních štěrčích nedaleko samotného pohřebiště. Štípaná industrie se nachází výhradně v mužských hrobech (např. Čížmár 2011, 141).

Při hodnocení hrobové výbavy je třeba mít na paměti, že s výjimkou hrobů H 800 a H 804 byly všechny narušeny sekundárními aktivitami s cílem vyjmout primárně uložené předměty.

Hrobová výbava hrobů H 802 a H 803 je v daném kontextu výjimečná. Některé artefakty mají analogie v rámci klasické langobardské koiné včetně jejich genderového rozdělení, podobně jako na dalších známých pohřebištích, např. v Lužici (Klanica – Klanicová 2011, 230, 231–232, 233–234, 261, 267, 271, 304–305, Taf. 31, 33, 36, 56, 60, 63, 82).

V zásadě totéž platí o hrobě H 801, jehož výbava není až tak početná a reprezentativní, ale obsahuje typické labsko-germánské komponenty: v daném případě v ruce vyráběnou keramiku. Ani durynská miska nepředstavuje výjimečný element. J. Tejral (2005, 159) argumentuje, že tyto misky byly přineseny do oblasti středního Podunají novými příchozími z Durynska. V našem případě se jedná o misku (Tejralova) typu 2, což by potvrdovalo pozdější datování hrobového celku a spíše by ukazovalo na trvalé kontakty s regionem středního Německa. Avšak na základě makroskopického porovnání s hlinami ostatních keramických zlomků z lokality, pro kterou je charakteristická dobře promíchaná hlína s pravidelnými příměsemi křemene a břidlice stříbrné barvy, nebyl detekován žádný rozdíl a misku je možné považovat za místní produkt.

Hroby H 805 a H 806 mohou být naopak popsány jako atypické langobardské pohřby a to s ohledem na přezky, které v nich byly nalezeny a mají analogie v alamanském prostředí a v oblasti Rumunska. Blízký vztah Alanů a Langobardů byl zmíněn v litera-

tuře, i když přítomnost alamansko-francských artefaktů v langobardských hrobech je dosud sporná (např. Koch 1997, 199; Quast 2008, 371–372).

Nalezené artefakty nedovolují detailnější chronologickou analýzu ani jednotlivých hrobů, ani pohřebiště jako celku. Přesto je třeba ještě jednou zmínit misku durynského typu 2 z hrobu H 801 datovatelnou do období 530–560/570 (Hansen 2004, 92, 132, Abb. 137).

Typochronologie hrobu H 802 je také nejednoznačná. Hřeby a nože nejsou chronologicky senzitivní, stejně tak „klíče“. J. Tejral (2011, 31) přináší argumenty pro datování do druhé třetiny 6. století. Analogie bronzové přezky na českých pohřebištích a maďarském Hegykő byly datovány do období po roce 510 n. l. (Bóna – Horváth 2009, 204).

Zbraně, hřeby a v ruce vyráběná keramika z hrobu H 803 také nejsou vhodné pro detailní chronologii.

Bronzové přezky z Rumunska analogické přezce z hrobu H 805 jsou datované do 6. až na přelom 6. a 7. století (Radulescu – Lungu 1989, 2584). Přezka nalezená v jižním Německu je datována jen velmi obecně (Quast 2006, 61).

Analogie k přezce z hrobu H 806 byla datována do fáze 4 (SD Phase 4), tedy do období 510–530 n. l. (Koch 2001, 309, 356–357).

Je možné shrnout, že hrobová výbava nalezená v Drnholci koresponduje se středodunajskou fází 4 (MDo-Phase 4), tedy obdobím 510/520–540/550 n. l. (Tejral 2005, 143–146).

Antropologickými metodami bylo odhadnuto pohlaví, věk a výška postavy. Základní antropologické vyhodnocení jedinců z Drnholce je shrnuto v tab. 2. Paleopatologická analýza proběhla na makroskopické úrovni a byla doplněna rentgenovým snímkováním. Zkoumaní jedinci byli porovnání s podobnými případy z klinické praxe. U studovaných jedinců byly zaznamenány zubní kazy, intravitální ztráty zubů a hypoplazie zubní skloviny.

Metodou analýzy přírůstků zubního cementu (TCA) byl upřesněn věk muže z hrobu H 806, který zemřel mezi 30. a 45. rokem života (tab. 3).

Následovala analýza dentálních mikroabrazí. Repliky zubů byly zkoumány pomocí SEM v Ústavu histologie a embryologie Lékařské fakulty Masarykovy univerzity v Brně a následně vyhodnoceny analýzou obrazu. Metodou bukálních dentálních mikroabrazí byly analyzovány a kategorizovány délka, úhel a počet strií do čtyř skupin na základě jejich orientace (tab. 4). Tato data byla porovnána se stopami na zubech jedinců se známou stravou (Lalueza – Pérez-Pérez – Turbón 1996). Z výsledků vyplývá, že v období zhruba 6 měsíců před smrtí konzumovali muži (H 801 a H 806) více masa než ženy (H 802 a H 805), jejichž strava byla spíše smíšená.

Změny na horních končetinách (*fossa costoclavicularis* a *fossa pectoralis major*; Czarnetzki 1971; Velemínský 1999) byly detekovány u některých jedinců. Patrně se jednalo o jednostranné zatěžování horních končetin spíše než o následek nemoci. Podobné případy byly hojně identifikovány na archeologickém materiálu u eneolitických populací v Čechách (Miklasová 2010), stejně jako u některých velkomoravských pohřebištích (Velemínský et al. 2008). Naopak na velkomoravském pohřebišti Mikulčice-Kostelisko na kostrách s bohatou hrobovou výbavou nebyly tyto změny zjištěny (Velemínský – Poláček – Dobisíková 2008).

V některých hrobech, respektive ve vykrádacích šachtách, byly nalezeny zbytky kremací (H 801 a H 802) a to o celkové hmotnosti 54,6 g v H 801 a 2,2 g v H 802. Je složité určit, zda zbytky kremace patřily jednomu, nebo více jedincům. V případě hrobu H 801 je možné s určitou pravděpodobností říci, že je jednalo o jednoho jedince, který zemřel mezi 15. a 30. rokem. Množství 2,2 g z hrobu H 802 nedovoluje činit závěry. Mohlo se jednat o náhodné uložení spíše než o záměrný pohřeb.

Kromě jedinců uložených v hrobech H 800 (dítě) a H 804, byly na všech ostatních skeletech zachyceny patologické změny (tab. 5). S výjimkou přirozeného opotřebení daného věkem byla diagnostikována artróza u jedinců uložených v hrobech H 801 a H 802 (obr. 23).

Dalším zajímavým aspektem byla četná zranění. Muž (50–60 let) uložený v hrobě H 803 měl dobře zhojenou zlomeninu žebra a hůře zhojenou frakturu čtvrté metakarpální kosti pravé ruky. Její

zlomky vytvořily nárůstky na třetí metakarpální kosti (obr. 24). Z charakteru zlomenin není možné určit, zda k nim došlo během každodenní činnosti, nebo byly způsobeny násilím. Např. zlomeniny žeber jsou v současnosti velmi častým úrazem (8 % všech zlomenin; Pokorný et al. 2002, 98–100). Jaká byla sekvence, případně současnost obou úrazových událostí není možné určit.

Další zaznamenanou patologickou změnou na kostech byly porézní stropy oční (*cribra orbitalia*, *usura orbitae* nebo *hyperostosis spongiosa orbitae*; Möller-Christensen – Sandison 1963; Hengen 1971; Moseley 1963), jež jsou v současnosti obvykle spojovány s anémií (např. Grauer 2019). Anémie často souvisí i s jinými onemocněními, která se na kostře nemusí projevit. *Cribra orbitalia* bývá četná; i 20 % populace může být takto postiženo, často děti a ženy (Hengen 1971; Suzuki 1987), může se však vyskytnout dokonce až ve 40 % případů (např. Poláková 2009). Na kostrách z Drnholce byla *cribra orbitalia* (typ I) diagnostikována u muže z hrobu H 801 a ženy z H 805 (obr. 25), u které mohla souviset s chronickou meningitidou, která se projevila abnormalitami na ostatních částech lebky (např. obr. 26). Tyto abnormality bývají spojovány s tuberkulózní meningitidou (Templin – Schultz 1994; Teschler-Nicola – Gerold – Prodingler 1998; Jankauskas 1999; Hershkovitz et al. 2002; Lewis 2004). Ale ani jiná postižení nemohou být vyloučena, např. nádorová onemocnění, kurděje, rachitida, nebo chronické záněty mozku apod. (Lorber 1958; Lewis 2004). V případě zánětů (např. meningitida) bez možnosti nasadit antibiotika byla smrt rychlá a nemoc nestihla vytvořit deformace na kostech. Příčina smrti tkvěla tedy spíše v jiném onemocnění.

Mnohočetné znaky chronického zánětu lebeční dutiny byly také zaznamenány na kostře muže z hrobu H 806 (např. obr. 27) a není možné vyloučit, že se jednalo o finální stadium tuberkulózního zápalu plic. Nejzajímavějším patologickým nálezem na této kostře byly změny na pánevních kostech, hlavně kloubních površích a krčků stehenní kosti a kolo-diafyzární úhel (110° na pravé straně; obr. 28). Změny by mohly souviset s Perthesovou chorobou (Ortner 2003), jejíž příčiny nebyly dosud jednoznačně určeny. Obvykle se projevují v dětském věku (mezi 4–12 lety), častěji u chlapců (Poul et al. 2009, 207–215). Paleopatologické studie z českých zemí prozatím zaznamenaly dva potenciální případy tohoto postižení (Smrčka et al. 2009), z nichž jeden je datován do doby stěhování národů (langobardské pohřebiště v Lužici; Smrčka – Svenssonová – Mařík 2000). Analýza a zhodnocení postižení tohoto jedince budou publikovány v separátní studii.

Přesto, že tento malý osteologický soubor nemůže reprezentovat celou langobardskou společnost, jeho studium poskytlo řadu velmi zajímavých výsledků. Tato skupina nebyla vystavena extrémní fyzické zátěži. Opatřování koster odpovídá věku. Dva jedinci nesou znaky artrózy žvýkačích kloubů, což může být následkem užívání zubů jako nástroje. Stopy úrazů byly diagnostikovány pouze na kostře muže mohutné postavy vybavené zbraněmi. Symptomy vážných chronických zánětů projevující se na kostře lebky svědčí nejpravděpodobněji o tuberkulóze, což by mohla jednoznačně potvrdit pouze analýza DNA. To platí i o genetické poruše epifyzální dysplazie (Perthesova choroba) jedince H 806.

Výsledky paleopatologické analýzy koster sedmi jedinců z Drnholce prokázaly důležitost takových podrobných analýz a obohatily obraz zdravotního stavu populace doby stěhování národů.

Také osteologické analýzy zvířecích pozůstatků byly vysoce přínosné. Téměř celá kostra mladé muly byla nalezena v hrobě H 801 (obr. 6, 7). Z kostry se dochovaly obratle, zlomky pánve, femuru, levé tibie, metakarpální kosti, tři prsty a žebra. Jednalo se pravděpodobně o mulu (Peters 1998; Hanot – Bochaton 2018). Zvíře mělo kohoutkovou výšku zhruba 156 cm, což by dnes odpovídalo urostlým jedincům a bylo větší než většina tehdejších koní. Muly mohly dorůstat větších rozměrů než koně (Peters 1998). Kříženci byli využíváni nejenom jako jezdecké zvíře, ale rovněž jako nosiči nákladu nebo jako tažná zvířata (Hanzák 1977, 88–89; Howe 2014; Mitchell 2018). Nález pohřbu muly svědčí o vyšším sociálním statusu pohřbeného jedince (např. Tejral 2009).

Nad nádobou v hrobě H 803 byly nalezeny zlomky vaječných skořápek (obr. 12: 7). Na základě mikroskopické analýzy (Hamilton 1986) je možné s vysokou pravděpodobností soudit, že se jednalo

o slepičí vejce (obr. 29). Samotná nádoba obsahovala dva obratle parmy obecné (*Barbus barbatus*).

Dále byly provedeny analýzy stabilních izotopů dusíku a uhlíku a jejich poměru a to ze vzorku extrahovaného z moláru výše popsané muly. Analýzy byly provedeny v Centru aplikovaného výzkumu izotopů na University of Georgia v USA. Na základě získaných dat (tab. 6) je možné soudit, že mula konzumovala tzv. C3 rostliny, tedy hlavně trávy, a žila v suchém prostředí, chudém na srážky, tedy ve stepní krajině (obr. 30 a 31).

Pro absolutní datování pohřebiště byl odebrán vzorek z každého skeletu (7) a následně byly vzorky analyzovány v Radiokarbonové laboratoři v Poznani. Naměřené výsledky byly kalibrovány podle kalibrační křivky IntCal20 (Reimer et al. 2020) a modelovány v OxCal (Bronk Ramsey 2009). Kalibrované hodnoty (tab. 7) prokazují velmi vysokou variabilitu v návaznosti na výrazné plateau kalibrační křivky zahrnující zhruba celé století mezi lety 420 až 520 n. l. Z toho vyplývá velmi široký interval pravděpodobného datování: 346 až 580 n. l., při zohlednění pravděpodobnosti 68 %.

Naměřená a kalibrovaná data byla následně modelována na základě některých historických dat (obr. 32): příchod Langobardů na Moravu a Dolního Rakouska se neodehrál před rokem 480 n. l. a roku 546 mělo dojít ke kolonizaci Panonie Langobardy a oblasti severně od Dunaje měly být vylidněny (Kaizer et al. 2019, 1659). Z toho vyplývá, že počátek pohřbívání v Drnholci by spadl do intervalu 480–510 a poslední pohřeb do období 507–537.

Efektivita srovnání radiokarbonových dat z ostatních pohřebišť pozdní doby stěhování národů (cca 5. – počátek 6. stol.) je málo přínosná, neboť tato metoda pro dané období není dosud běžně využívána. Disponujeme sice reprezentativním počtem analýz z pohřebišť v Dolním Rakousku, avšak na Moravě byly dosud takto datovány pouze 4 hroby z Lužice (Stadler et al. 2003; Kaizer et al. 2019).

Drnholecká skupina odpovídá fázi 4 doby stěhování národů podle Kaizerova modelu (Kaizer et al. 2019, fig. 2). Absolutní data drnholeckého pohřebiště jsou v přibližném souladu s daty získanými předchozím, převážně typochronologickým bádáním.

Na závěr jsou diskutovány otázky, zda je možné pohřbené jedince považovat za Langobardy. Dotýkáme se problému, kdo vlastně byl Langobard doby stěhování národů v pramenech, v sebeidentifikaci a jak definovat archeologického „Langobarda“. Jedná se o komplexní otázky a nemohou být zodpovězeny zjednodušeně.

Skupinu hrobů z Drnholce hodnotíme jako jeden názevový celek patřící ke shodnému kulturnímu okruhu vzhledem k tomu, že všechny hroby obsahují buď typickou hmotnou kulturu připisovanou langobardskému kulturnímu okruhu, nebo mají analogie v regionech, které byly ve vzájemném kontaktu, což se projevuje i na jiných současných pohřebištích. Není možné ani přehlédnout prostorovou kompatibilitu pohřebišť se shodnou orientací hrobových jam i pohřbů samotných.

Na základě kombinace dat vyplývajících z modelace radiokarbonových dat, bylo pohřebiště datováno do intervalu 480–537 n. l., zatímco na základě typochronologické analýzy vychází stáří pohřebiště do rozpětí let 510–550 n. l.

Většina artefaktů nalezených v hrobech reprezentuje typické langobardské (v archeologickém slova smyslu) artefakty středodunajského regionu první poloviny 6. století. Některé mají analogie ve východních Čechách, kde by patřily ranějším fázím, ale prozatím neexistují radiokarbonová data pro lepší srovnání. Několik předmětů spíše odpovídá výbavě v jihozápadním Německu (bronzová přezka z H 805) a Durynsku (miska na kruhu z H 801).

Přestože je počet hrobů malý, je možné zobecnit některé charakteristiky společností první poloviny 6. století v regionu. Dva z prozkoumaných hrobů nebyly sekundárně otevřené (H 800 a H 806). V těchto hrobech byli pohřbeni jedinci pravděpodobně nižšího sociálního postavení: dítě v prvním a hendikepovaný muž v druhém hrobě. Kostru dítěte nedoprovázela žádná hrobová výbava, u postiženého muže byly nalezeny pouze artefakty každodenního užití.

K druhotnému narušení hrobů došlo v poměrně krátké době po pohřbu a způsob provedení svědčí o tom, že jej realizovali ti, kteří věděli, kdy byl zemřelý pohřben, dokázali odhadnout čas rozkladu měkkých tkání a rovněž měli přehled, co v kterém hrobě

bylo deponováno. Spíše je třeba uvažovat o snaze vrátit nějakým způsobem cenné předměty do živé kultury, než o snahu obohatit se.

Tyto zásahy doprovázelo umístění spálených lidských ostatků do sekundární šachty. Nejedná se o kosti pohřbených jedinců, ale o ostatky odlišných individuí. Tato velmi specifická praktika nebyla dosud systematicky studována.

O určité sociální stratifikaci dané society je možné usuzovat na základě hrobové výbavy přesto, že neznámá část hrobové výbavy byla odstraněna sekundárními zásahy. To vyvolává mimo jiné otázku, kolikrát se odebraný předmět mohl stát součástí hrobové výbavy?

Pohřeb muly v hrobě H 801 je také hodný pozornosti. Pohřby koně s jezdcem jsou z langobardského prostředí známé (*Tejral 2009*, 131; *Droberjar 2013*, 200), avšak mula je výjimečná. Může to souviset s nerozlišením koně od křížence (nebo dokonce od osla) zvláště u starších osteologických analýz. Tento pohřební ritus není běžný, kopytník (případně pes, vepř) byl většinou pohřben po boku svého pána, nikoliv nad ním.

Většina hrobové výbavy nepřesahuje rámec předmětů každodenní potřeby. Jednalo se převážně o keramiku a součásti oděvů, snad s jedinou výjimkou zbraní. Hrobová výbava obsahuje genderově specifické artefakty jako např. bronzové „klíče“ a skleněné korálky typické pro ženské hroby. Jedinec pohřbený se zbraněmi byl patrně skutečným bojovníkem, což dokládá jeho tělesná konstituce a možná i zranění. Napovídá tomu i odlišná struktura stravy zemřelého, která byla bohatá na maso.

L. Melicherová (2019) ve své diplomové práci prokázala, že i když existuje řada dnes již dostupných metod zkoumání různých aspektů života jedince i společnosti, při studiu langobardských pohřebišť bylo zatím použito těchto metod jen minimálně a interdisciplinární přístup dosud nebyl samozřejmostí. Také se jen výjimečně kombinuje více metod na jednom pohřebišti. V celoevropském měřítku se jedná pouze o 15 projektů, které dokázaly aplikovat a publikovat výsledky dosažené kombinací více analytických metod. Důvodů může být řada, ale jedním z nich je způsob tvorby výzkumných projektů a záměrů, kdy krátkodobé projekty nemají k dispozici dostatek času pro promyšlenou strategii analýz, jejich realizaci, následně systematickou a systémovou analýzu a také syntézu získaných dat. I u menšího souboru to může představovat několik let intenzivní práce.

Proto se autoři této studie rozhodli, že drnholecká nekropole bude analyzována a publikována postupně. V první fázi byla uplatněna typochronologická analýza, antropologická a paleopatologická analýza, zooarcheologie a radiokarbonové datování. Další analýzy jsou v plánu a některé již v procesu (např. analýzy stabilních izotopů, aDNA, petrografická analýza).

Přesto, že nebyla prozatím využita celá možná škála dostupných analýz, je zřejmé, že již první získaná data obohacují naše znalosti o společnosti první poloviny 6. stol. běžně definované jako langobardská kultura nebo Langobardi. Shledali jsme, že typologie jako univerzální metoda je přeceňována a spokojit se pouze s jejími výsledky omezuje další poznání. Naopak interdisciplinární přístup mířící na získání tzv. tvrdých dat je při současné úrovni poznání efektivní a zásadní.

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