

The pottery from the Bronze Age settlement at Podsmreka in the Dolenjska region

Keramika iz bronastodobne naselbine v Podsmreki na Dolenjskem

Ida MURGELJ

Izvleček

V članku je predstavljena bronastodobna naselbina Podsmreka pri Višnji Gori, v kateri je bilo odkritih tudi pet sočasnih grobov otrok oziroma mlajših oseb. V naselbini je bila pomembna dejavnost zbiranje in predelovanje rdečega muljevca, rumenega meljevca in boksitnih oblic. Glavni poudarek je na tipološki in kronološki opredelitvi keramičnih najdb. Te so skupaj z gradivom iz Olorisa pri Dolnjem Lakošu pripomogle k oblikovanju pojma horizont Oloris-Podsmreka, ki na območju jugovzhodnih Alp obsega čas srednje in prehod v pozno bronasto dobo.

Ključne besede: Dolenjska; Podsmreka pri Višnji Gori; bronasta doba; horizont Oloris-Podsmreka; naselbina; grobovi; keramične najdbe; mineralne surovine

Abstract

Excavations at Podsmreka near Višnja Gora unearthed a Bronze Age settlement and associated five burials of children or juvenile individuals. They brought to light a wealth of finds that include accumulations of red mudstone, yellow siltstone and bauxite cobbles, the collecting and processing of which was an important activity of the settlement's inhabitants, but also quantities of pottery that is the topic of this contribution discussing, more particularly, its typological and chronological attribution. Together with the pottery from Oloris, it defines the phenomenon that is the Oloris-Podsmreka horizon, which covers the Middle and transition to the Late Bronze Age in the south-eastern Alpine area.

Keywords: Slovenia; Dolenjska; Podsmreka near Višnja Gora; Bronze Age; Oloris-Podsmreka horizon; settlement; burials; pottery; mineral raw material

The archaeological site of Podsmreka 2 near Višnja Gora is located on a gentle slope descending towards the floodplain of the Višnjica stream. It was detected during the 1999 watching brief of the motorway flyover at Podsmreka (*Fig. 1*).¹ The

¹ Drago Svoljšak from the National Museum of Slovenia headed the excavations. The author of the contribution analysed the small finds as part of her master's thesis entitled *Srednja bronasta doba na Dolenjskem – primer Podsmreka* under the mentorship of Prof. Biba Teržan, defended in 2008 at the Faculty of Arts, University of Ljubljana. The

ensuing excavations covered 7300 m² between the local road from Višnja Gora to Ivančna Gorica and the railway line from Ljubljana to Novo mesto, revealing part of a settlement that had already been damaged during the road and railway constructions. It was additionally disturbed during agricultural activities, as sherds of prehistoric

site (Podsmreka 1, 2 and 3) was comprehensively published in 2013, as part of the e-publications of the *Arheologija na avtocestah Slovenije* series, Vol. 42 (Murgelj 2013).



Fig. 1: Location of archaeological sites. Scale = 1:50000.

Sl. 1: Lega arheoloških najdišč. M. = 1:50000.

1 – Podsmreka 2; 2 – Ivančna Gorica. (© Atlas Slovenije, 2005)

pottery already came to light in the mixed layer some 20 cm deep, while the bulk of the remains lay at a depth of roughly 40 cm.

The excavations unearthed a settlement and five cremation burials attributable to the Virovitica group or the Oloris-Podsmreka horizon (Murgelj, Svoljšak 2003b; Murgelj 2014a). Similarly as the other settlements of the group, it was sited on slightly elevated ground above a waterway, in this case the Višnjica stream, which has a low gradient and is therefore prone to flooding (Gams 1984; Perko, Orožen Adamič 2001). The stream flows into the River Krka close to the latter's spring in the cave of Krška jama, in immediate proximity to the Gradiček village.

HABITATION REMAINS

The excavation area was divided in two sectors, each with its own grid square numbers to facilitate documentation. The one in the north was named Sector 1, heavily damaged by construction work, the one in the south Sector 2 (Fig. 2).

The site had a simple basic stratigraphy (Murgelj 2013, 9; Fig. 9): the cultural layer covered the underlying geology with the bottoms of storage and refuse pits surviving to shallow depths in the latter.

Roughly 25,000 pieces of pottery were collected in the settlement, in 73 differently-sized concentrations with individual sherds scattered in between (Fig. 2: red numbers [Sector 1, Concentrations 1–17; Sector 2, Concentrations 1–56]). Some of the cluster concentrations indicated the existence of buildings measuring roughly 8 × 10 m in plan (Fig. 2: Buildings 1–4). In some cases, small finds were scattered around large storage and refuse pits, suggesting these were located in building interiors. The ground plans of buildings were aligned in a northwest–south-easterly direction (Fig. 2). Archaeological remains were recorded across the whole of the excavated area and were presumably also present in the parts previously destroyed by construction work.

Of the archaeological remains, 64 concentrations and five cremation burials are attributable to the Bronze Age, four concentrations to the Early Iron Age. Other finds include differently-sized and relatively shallow sunken features, 5 to 15 cm deep with bottoms recorded 40–50 cm below the present-day surface, which have been identified as refuse and storage pits. They contained pottery, but also fragments of quernstones, whetstones, in rare cases pieces of burnt daub, of red mudstone and even rarer animal bones. The Bronze Age settlement yielded no metal finds with the exception of

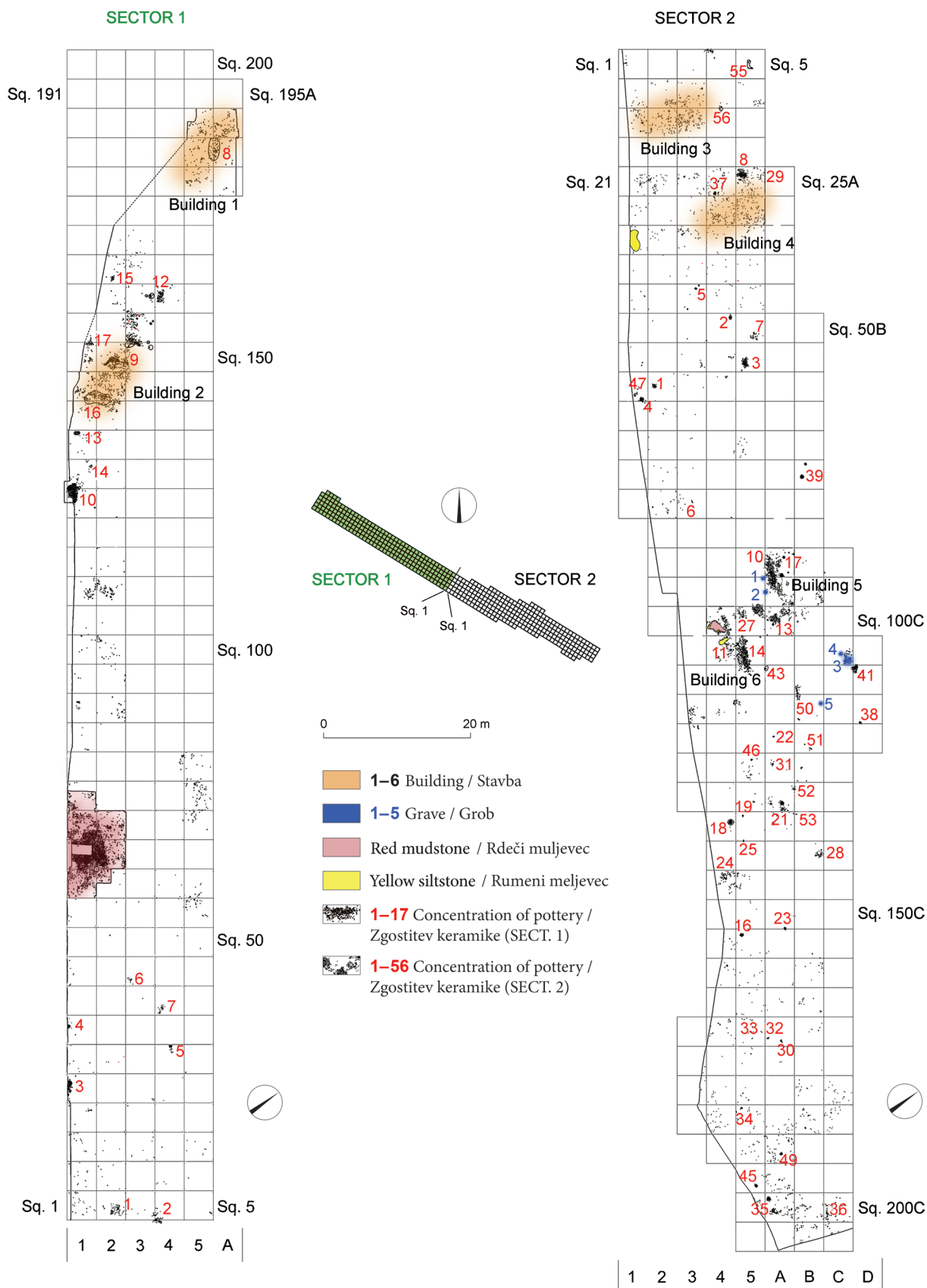


Fig. 2: Podsmreka 2. Plan of the Bronze Age habitation remains in Sectors 1 and 2.
 Sl. 2: Podsmreka 2. Sektorja 1 in 2 z bronastodobnimi naselbinskimi ostalinami.

two pieces of sheet bronze (Murgelj 2013, G950, G951). In contrast, the find of a mould for casting rings (ib., G280) suggests that metallurgic activities did take place here.

The remains include practically no features such as postholes that would indicate the existence of earthfast or post-in-ground construction. The only exception is six holes in Sector 1, in Grid Squares 148 and 153, on a roughly 2 × 3 m large surface (Fig. 2). Three of these were dug at an angle, suggesting a building with a slanted roof construction.

Several pits with pottery sherds also had a considerable amount of crushed pottery on the ground around them, suggesting they formed the interior floor of buildings measuring some 8 × 10 m (Buildings 1–4). Two such outlined buildings were in Sector 1, around Concentrations 8 and 9, respectively, the other two in Sector 2, around Concentrations 56 and 8 (Fig. 2).

Buildings 5 and 6 date to the Early Iron Age (Murgelj 2013, 19) and will therefore not be discussed here.

Mineral raw material

The remains that attracted much attention were accumulations of red mudstone, yellow siltstone and cobbles of bauxite, more precisely oolitic bauxite ore.

The largest accumulation of red mudstone measured 6 × 6 m, it was some 80 cm deep with several pockets reaching even deeper. It was deposited in a pit, the edges of which could not be identified due to the effects of bedrock weathering (Fig. 2: Sector 1/between Grid Squares 56–71 and 62–67). Yellow siltstone, which has slightly coarser grains in comparison with mudstone, was found in smaller accumulations, with the largest one measuring 3 × 1.20 m (Fig. 2: Sector 2/Grid Square 31). According to geologist Tomaž Verbič, these are not natural formations, but rather collected raw material deposited here for storage. Outcrops of both rocks are today known along the banks of the Višnjica stream, around Višnja Gora and in the Podsmreka quarry (Verbič 2013, 322, Fig. 48–58).

Also found were differently-sized accumulations of bauxite cobbles. The largest one was recorded in the southeast part of the excavation area (Sector 2), one also scattered on top of the largest accumulation of red mudstone (Sector 1).



Fig. 3: Podsmreka 2. Grinding slab with traces of red mudstone and grinder.

Sl. 3: Podsmreka 2. Terilna plošča s sledovi rdečega muljevca in tolkač.

Individual cobbles were recovered across the rest of the settlement, but rarely in storage and refuse pits (Murgelj 2013, 18, Fig. 11a,b; 21; 22).

Fairly frequent were the finds of grinding stone tools such as grinders and grinding slabs. The latter are elongated and relatively thin slabs of quartz sandstone with carefully worked surfaces. One of them bears traces of red mudstone (Fig. 3), which suggests that at least some were used to grind or crush siltstone and mudstone (Murgelj 2013, 18, Fig. 23; 24).

The flat round grinders were made of different rocks and recovered in pits together with pottery sherds (Murgelj 2013, G80, G498, G882).

A similar grinder was unearthed in the hearth next to Grave 4 in the Bezdanjača cave, in the Lika region of Croatia (Drechsler-Bižić 1979–1980, Pl. 9: 2). The grinder and one of the pots from the hearth bore traces of red ochre, pieces of which were also placed at other skeletons. The deceased in this cave were carefully laid on the cave floor and grave goods placed around them. The red ochre was presumably used during the burial ritual providing a red pigment likely used for painting parts or the whole body of the deceased. As a symbol of eternal life, red ochre is believed to have marked the transition to the afterlife.

The red mudstone from Podsmreka cannot positively be identified as red ochre as we do not know the composition of other ochres used in mortuary rituals from the Palaeolithic onwards. It is likely that both rocks served to obtain pigments that the inhabitants used either for their own needs or as trading goods.

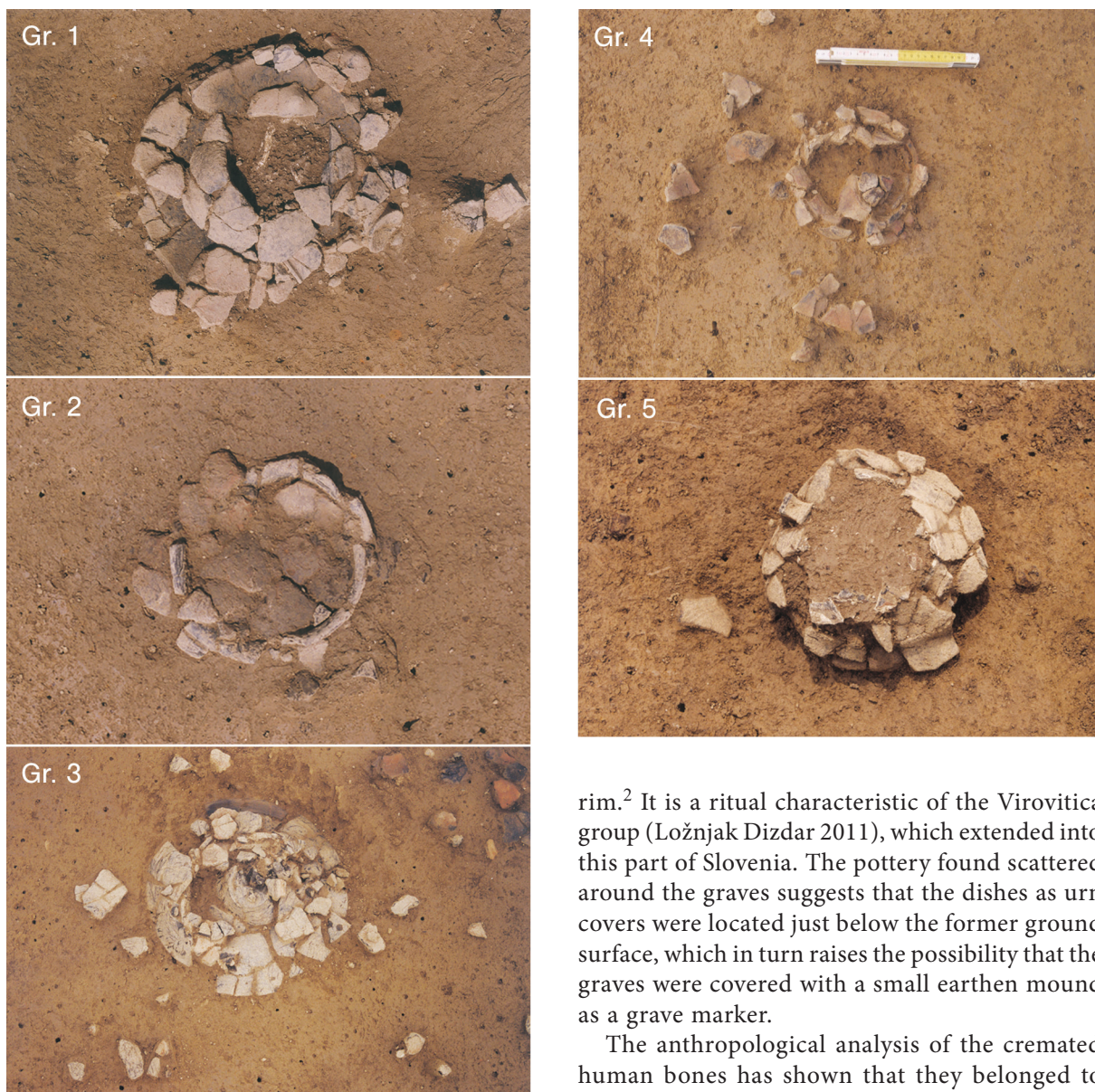


Fig. 4: Podsmreka 2. Graves 1–5, view from above.
Sl. 4: Podsmreka 2. Grobovi 1–5, pogled od zgoraj.

GRAVES

Five burials with characteristics of the Virovitica group were unearthed relatively close to one another in the southeastern part of the settlement (Fig. 4; Pl. 1–4). This part yielded finds from both the Bronze and Early Iron Ages (Fig. 2: Buildings 5 and 6).

The graves were simple pits that contained an urn filled with ashes and cremated remains, and covered with either a sherd or a complete dish placed upside down. In the urns from Graves 1 and 5, the cremated bones were visible just below the

rim.² It is a ritual characteristic of the Virovitica group (Ložnjak Dizdaj 2011), which extended into this part of Slovenia. The pottery found scattered around the graves suggests that the dishes as urn covers were located just below the former ground surface, which in turn raises the possibility that the graves were covered with a small earthen mound as a grave marker.

The anthropological analysis of the cremated human bones has shown that they belonged to children and juvenile individuals (Leben Seljak 2013), indicating that rather than an associated cemetery, the burials represent a specific custom of burying children and young members of a community inside the settlement.

In northern Croatia, there are several known Urnfield culture cemeteries (Premužić 2016, 19) ascribed to the Virovitica group, though the relationship between the settlements and associated cemeteries has only recently become clearer, for example at sites such as Popernjak, Jakopovec, Mač-

² The pottery in the graves was in a poor condition, which led to the graves being excavated en bloc and taken to a conservation laboratory for further processing. The conservation procedure was conducted without the involvement of an archaeologist and the data as to the placement of the bones inside the urn were lost.

kovec (Marijan 2010), Čepinski Martinci (Kalafatić 2009) and Poljana Križevačka 2 (Ložnjak Dizdar 2012). None of these sites, however, revealed burials inside the settlement as is the case at Podsmreka.

The graves from Podsmreka and the known ones of the Virovitica group share a simple, funnel-shaped form of the grave pit that is only large enough to comfortably fit the urn. Differences are observable in the manner of placing the urn and goods in the grave pit. At Virovitica, ritually crushed pottery was first placed into the pit, on it the urn and other crushed pottery around the urn. In most graves, the urn containing the remains of the deceased was covered with an upturned dish. Deposited over the urn and goods was the ashes from the pyre, and the pit finally backfilled (Vinski-Gasparini 1973, 37). A similar situation has been recorded in the graves excavated at Voćin (Ložnjak 2003) and Gačićte near Suhopolje (Pavišić 1992). The cemetery at Drljanovac, with a continuity of burial from the earliest Virovitica phase to Phase II of the Urnfield culture or the Zagreb group, also shows internal differences in the burial rite as Graves 7 and 9 held carefully cleaned bones, most likely washed and placed into the urn, though the disposition of other vessels is unclear. Because of the similarity with Graves 5 and 6 from the same cemetery, Grave 7 is attributed to Phase I of the Urnfield culture or Virovitica group (Majnarić-Pandžić 1989a, 15). The washed and crushed bones without ashes were also laid into the urn in Grave 7 at Moravče near Sesvete, a cemetery that shows considerable variety in the funerary ritual as well. Among its more intriguing burials is that in Grave 3, where ashes with bone fragments were placed on the bottom of the pit and covered with half of a dish, a burial otherwise typical of the Barice-Gredani group in northern Bosnia and southern Slavonia. All graves from the Moravče cemetery have been attributed to Phase I of the Urnfield culture and show no later elements (Sokol 1988–1989; 1996, 33). The same dating pertains to the grave discovered by chance at Lepoglava (Šimek 2003), which held an urn covered with half a dish and no other pottery sherds. At Poljana Križevačka, eleven of the urns had cremated bones placed on the bottom and not reaching over half of the urn's volume (Premužić 2016, 86–87).

The three contemporary graves excavated at the Potrčeva cesta site in Ptuj also differ from one another. One contained an urn and a jar, one an urn and a pedestal cup, as well as several pottery sherds next to it, while the pit of the third one was

lined with cobbles and held a jug covered with a sherd and an upturned pedestal cup. All three pits were filled with fine sand mixed with ashes and cremated bones (Jevremov 1988–1989, 171, Fig. 1).

POTTERY

Of the 25,000 recovered pieces, the pottery production analysis examined 998 selected and drawn pieces of vessels (Murgelj 2013). In the cases of more than one sherd of a single vessel, they were treated as a single item. The analysis followed the guidelines as formulated by Milena Horvat (1999) and identified grain size, method of manufacture and surface treatment, but not fabric composition (quartz, organic inclusions, iron oxides, clay pellets, grog or other unidentified particles).³

Grain size:

The highest share of pottery was made of a fine-grained fabric (74%), followed by pieces of medium-grained (25%) and rare coarse-grained fabrics (1%), while very fine-grained and very coarse-grained fabrics were absent.

Manner of manufacture and surface treatment:

All vessels were hand-built, but it was not possible to determine whether this was done with coils or bands as the surfaces were finely finished to the degree of concealing the details of manufacture.

Firing and surface colour:

The greatest share, i.e. 57% of the analysed items show firing in a reducing atmosphere with oxidation in the final phase; such fragments have a characteristic dark core and lighter interior and exterior surfaces. Less common is pottery fired in a reducing atmosphere, with a dark fracture, represented with 19.9%. Next, there is 12.3% of pieces that show fire damage and have not been included in any of the categories; their surface is either light grey, cracked, with visible burnt red inclusions or light grey to orange grey and completely burnt through, in both cases very light, porous and most often deformed. Pottery fired in an incomplete oxidising atmosphere is represented with 5.6%; it is grey at the core and lighter coloured on the surfaces. There is 4% of analysed pottery fired in an oxidising atmosphere, with uniform light red-brown colour of the core and both surfaces. The analysed assemblage also

³ The detailed descriptions of the pottery finds are published in Murgelj 2013 (61–312).

includes 1% of pottery fired first in a reducing atmosphere (dark core), then briefly exposed to oxidising conditions (lighter layer) and finished again in reducing conditions, producing a layered light-dark fracture.

The analysis reveals that the greatest share of pottery of all types is made of a fine-grained fabric with the exception of pithoi, which are predominantly made of a medium-grained fabric, but also that most vessels were fired in a reducing atmosphere with oxidising conditions in the final phase, which produced a variety of light brown, red-brown to dark brown colours.

TYOLOGICAL AND CHRONOLOGICAL ATTRIBUTION

Dishes

Vessels were identified as dishes (*Fig. 5*) on the basis of their proportions, i.e. the rim diameter measuring 2.5 to 5 times the height of the vessel. They represent 4% of the analysed pottery and are divided into six types.

The wide dishes, which include Types S 2–S 6, have different profiles, i.e. a smooth or a more pronounced rim-lower body junction and are either rounded or conical. They also differ in the number of handles, usually strap-shaped, which varies from one to four; single-handled dishes are most common. The handles are attached at the rim and shoulder, the neck and shoulder or on the belly.

As Ksenija Vinski-Gasparini already established, such wide dishes originate in the central Danube Basin, where they occur from the end of the Early to the Late Bronze Age (Vinski-Gasparini 1973, 39). They were mainly used as covers for urns or ashes.

Type S 1

It has a gently rounded body and rim with a flat lip thickened either on the exterior, the interior or both (*Fig. 5: S 1*).

Sector 1: Concentrations 3 and 9; Sector 2: Concentration 3 (*App. 1*; cf. Murgelj 2013, G44, G281, G284, G673).

In Slovenia, this dish type has parallels from the settlement at Oloris, where it was identified as Type S 1 (Dular, Šavel, Tecco Hvala 2002, 150, *Fig. 7*), but also in a dish from Pit SE 621 in the settlement at Sodolek (Kavur 2012, 81, *Fig. 7: 2*) and the dishes from Iška Loka, on the fringes of

the Ljubljansko barje (Velušček 2005, Pl. 1: 7; 6: 9). It is attributed to BA C/D. Outside Slovenia, the same dating holds true of the dishes from a grave at Zbelava (Kalafatić, Kovačević, Vekić 2009, 38, Pl. 4: 1) and the settlement at Podgojac – Glogovica (Kulenović 2016, 59, Pl. 4: 5). At the necropolis at Gređani, such dishes covered the cremated remains in Graves 29, 60 and 62 (Minichreiter 1982–1983, Pl. 9; 16), and have been attributed to BA D and Ha A1.

Type S 2

It has a pronouncedly conical body and rim with a rounded lip frequently with a break in the interior profile. They have no or one handle, in some cases the strap handle occurring in combination with a tongue-shaped lug (*Fig. 5: S 2*).

Sector 1: Grid Square 185, Concentration 10; Sector 2: Concentration 8 and Grave 3 (*Pl. 3: 1*) (*App. 1*; cf. Murgelj 2013, G148, G501, G716, G759, G1104).

Conical dishes are rare. Most similar to the examples from Podsmreka are those found in cremation Graves 77 and 104 of the Salka I cemetery at the River Ipel' in Slovakia, which are decorated with four prongs along the rim (Točík 1964, 17, Pl. 17: 6,23; 21: 10) and have been attributed to the Classic Tumulus culture (BA C). Also ascribable to this type are the fragments from a grave at Zbelava, dated to BA C/D (Kalafatić, Kovačević, Vekić 2009, 40, Pl. 3: 4), and from the settlement at Kurilovec – Belinščica (Kudelić 2016, 28, Pl. 7: 3).

Type S 3

It has a slightly S-shaped profile and everted rim. It has no or one strap handle attached by way of plugs to the central part of the vessel (*Fig. 5: S 3*).

Sector 1: Grid Square 185 (Building 1), Concentrations 6, 9 and 14; Sector 2: Concentrations 8, 21 and 23 (*App. 1*; cf. Murgelj 2013, G118, G363, G378, G425, G576, G764, G897, G919).

The greatest number of such dishes came to light in the cemeteries attributed to the Virovitica group, to Phase I of the Urnfield culture (late BA C and D). They have been recorded in a damaged grave at Virovitica and Graves 1 and 2 at Sirova Katalena (Vinski-Gasparini 1973, Pl. 10: 3; 14: 2,4). At Mala Pupelica, a two-handled dish served as the cover of an ellipsoid urn with a pair of down-turned tongue-shaped lugs placed at maximum diameter and a pair of groove-encircled knobs (Majnarić-Pandžić 1989a, 23, Pl. 2: 1). In the slightly later necropolis at Gređani, such dishes with one or

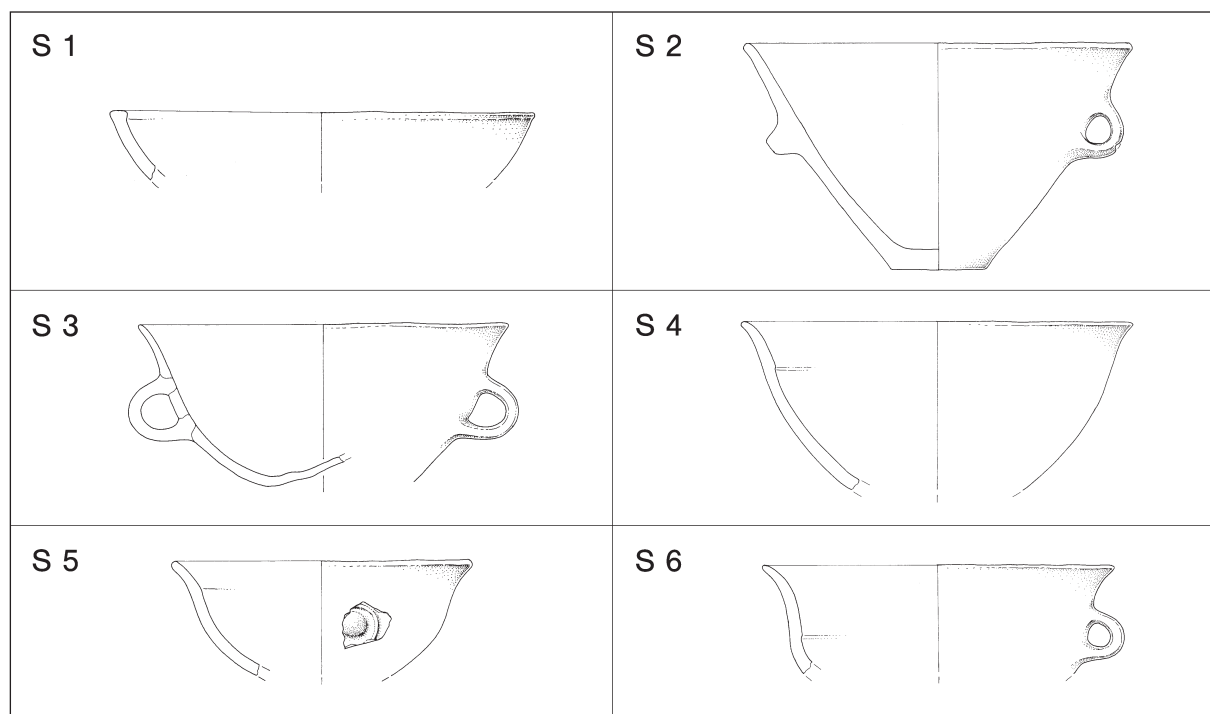


Fig. 5: Podsmreka 2. Types of dishes (S). Scale = 1:6.

Sl. 5: Podsmreka 2. Tipi skled (S). M. = 1:6.

four handles were found in Graves 36, 44 and 67. A two-handled dish was found in Grave 10 of the Perkovci cemetery, which also forms part of the Gređani burial grounds (Minichreiter 1982–1983, 32, 61, Pl. 10; 12; 17; 22). The same time frame is valid for the fragment a single-handled dish from the settlement at Kalnik – Igrišče (Vrdoljak 1994, 30, Pl. 13: 1).

Type S 4

It has a slightly S-shaped profile, everted rim and stepped rim-body junction in vessel interior. One example has a large elongated knob or small tongue-shaped lug at mid-section (Fig. 5: S 4).

Sector 1: near Concentration 8, Grid Square 185 (Building 1); Sector 2: Concentrations 3 and 8 (App. 1; cf. Murgelj 2013, G165, G666, G760).

The early examples of this type include the dishes attributed to Phase I of the Urnfield culture (BA C and D) from the cemetery at Moravče near Sesvete. There, the dish fragment from urn Grave 2 served as the urn cover, while the two-handled example with four prongs at the rim from Grave 7 was found complete and also covered the urn (Sokol 1996, 30, Fig. 6: 1; 12: 1). Other examples came to light in the settlements at Podgajac – Glogovica (Kulenović 2016, 60, Pl. 6: 3) and Kurilovec – Belinščica (Kudelić 2016,

28, Pl. 7: 1,2; 9: 2). The dishes found in Graves 4 and 6 at Grabovica near Doboj, a cemetery of the Barice-Gređani group (Belić 1966, 33, Pl. VI: 4,7), and in Graves 15 and 16 at Gređani (Minichreiter 1982–1983, 21, Pl. 6; 20) have been dated to BA D and Ha A1. Fragments of this dish type were found in a grave at Jakopovac – Blizna, covering the cremated bones of a woman aged 18–25 years at death (Bekić 2006, 108, Pl. 9: 29). The settlement associated with this cemetery also yielded a sherd of such a dish, in a posthole dated to the 12th–11th centuries BC (Bekić 2006, 107, Pl. 8: 5).

Type S 5

It has a rounded body, everted rim and a break at the interior rim-body junction. It has no or one strap handle attached below the rim. One example has a knob surrounded by a thin rib (Fig. 5: S 5).

Sector 1: Concentrations 8, 9, 10 and 12; Sector 2: near Concentration 2, Concentrations 8, 16 and 38, and Grave 2 (as urn cover; Pl. 2: 1) (App. 1; cf. Murgelj 2013, G100, G141, G389, G423, G424, G484, G507, G551, G662, G761, G762, G763, G874, G1012, G1101).

The early parallels include the dish from inhumation Grave 165 in a tumulus of the Middle Bronze Age cemetery at Pitten, in Lower Austria. On the basis of the pin with a hole in the neck

and a rosette-sectioned shank, the grave has been attributed to the early phase of the cemetery that began in BA B1 (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, 100, Pl. 229: 7; Benkovsky-Pivovarová 1982–1985, 32–33).

In the Moravče cemetery near Sesvete, dated to Phase I of the Urnfield culture, a similar dish with four prongs at the rim and stubs of four legs at the base came to light in Grave 3 (Sokol 1996, 30, Fig. 7: 1). Attributable to the same time frame is the dish from the settlement at Žlebič near Ribnica (Puš 1988–1989, 346, Pl. 3: 3). The dating proposed for the examples from the cave sites of Turjeva jama and Kovačeva jama is broader, i.e. 14th–11th centuries BC (Bressan 1988–1989, 521, Pl. 3: 7; Knavs, Mlinar 2005, 70, Pl. 3: 3–6), the same for the dishes from Gradišče above Ajdovščina, which have a slightly more curved neck and a very sharp rim-body junction, as well as two dishes from Most na Soči (Svoljšak 1988–1989, 369, Pl. 1: 13,14; 5: 5,6). Also attributed to BA D and Ha A1 are the dishes found in the settlement at Iška Loka (Velušček 2005, Pl. 1: 5,6; 3: 12,13).

A single-handled dish from Grave 54 in the cemetery at Gređani covered the cremated remains of the deceased, similarly as in Grave 4 at Oriovac (Minichreiter 1982–1983, 44, 64, Pl. 15; 19: 8).

Type S 6

It has a rounded body, everted rim and single or double break in the interior. It has no or a single handle attached just below the rim or at the junction with the lower body (Fig. 5: S 6).

Sector 1: near Concentration 8; Sector 2: Concentrations 21/I, 41 and 42, as well as Grave 3 (Pl. 4: 1) (App. 1; cf. Murgelj 2013, G117, G896, G1015, G1036, G1108).

In a grave at Matena, such a dish was used to cover the urn (Grahek 2017, 107, Pl. 3: 2). One example was found at Medvode, identified as Type S1 (Leghissa 2011, Pl. 2: 5). Most similar single-handled dishes came to light in Graves 2, 3 and 5 of the Virovitica cemetery (Vinski-Gasparini 1973, Pl. 8: 2,9; 9: 3; 10: 4). Sharing the same dating are two-handled dishes with a pronounced break in the neck interior that were found in the Bezdanjača cave in Lika, more precisely in Group Grave 6 and Block 12 (Drechsler-Bižić 1979–1980, 34, Pl. 27: 1; 36: 1). In another cave, Jozgina pečina, several sherds of conical dishes with a pronounced break in the neck interior were found (Drechsler-Bižić 1987, 58, Pl. 5: 1,1a,2,2a), dated to BA C and early BA D.

Similar fragments come from the settlements at Ivanovci Gorjanski – Palanka, dated to BA C/D (Kudelić 2011, Pl. 2: 2), and Podgajac – Glogovica (Kulenović 2016, 60, Pl. 6: 1).

In the cemeteries of the Barice-Gređani group (BA D and Ha A1), such dishes were used to cover the cremated remains of the deceased. At Gređani, they were found in Graves 6, 10, 11, 22, 35, 41, 45, 64 and 65 (Minichreiter 1982–1983, 14, Pl. 3; 5; 7; 10; 11; 13; 16; 17). These dishes have a single strap handle with the exception of the example with four strap handles from Grave 45 and the examples without handles in Grave 65. The dish in Grave 64 also has four prongs at the rim, as does the upturned dish with two strap handles from Slavenska Požega. In the contemporary cemetery at Oriovac, the single- or two-handled dishes covered the cremated remains of the deceased in Graves 1, 5, 6 and 10 (Minichreiter 1982–1983, 67, Pl. 19: 4,6; 20: 1,2,4); those in Graves 1 and 5 had four prongs at the rim. This type may also include a dish from the settlement at Dubovo near Županja, also ascribed to the Barice-Gređani group (Marijan 2003, 21, Fig. 9).⁴

Bowls

The vessels identified as bowls (Fig. 6) have the rim diameter 1.5 to 2.5 times that of vessel height. They may or may not have handles. Bowls represent 5.6% of the analysed finds and have been divided into eight types.

Type SK 1

It has a carinated profile and everted rim. It is predominantly without handles; when existing, the handle is attached at the rim or just below it and at the carination. These bowls of a small volume have been divided into Subtypes 1/1, 1/2, 1/3 depending on the width of the everted rim with regards to the carination: the rim in Subtype 1 is broader than the carination, in Subtype 2 it is as broad as the carination and in Subtype 3 it is narrower (Fig. 5: SK 1).

– Subtype SK 1/1

The bowl of Subtype SK 1/1 is considerably wider at the rim, in one example decorated with prongs, than at the carination (Fig. 6: SK 1/1).

⁴ This dating is supported by the result of the radiocarbon analysis performed at the Institut Ruđer Bošković: 2920±95 BP.

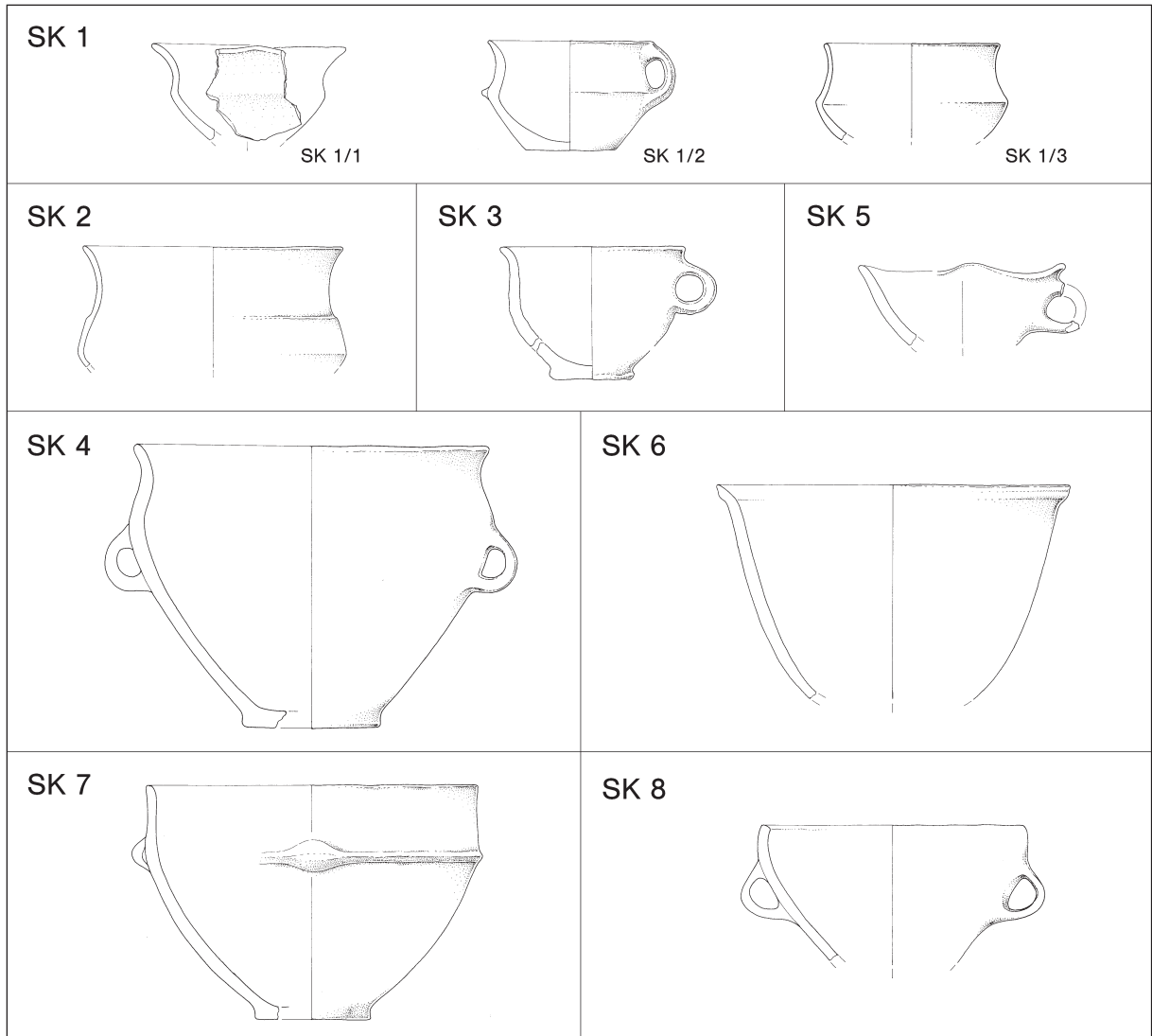


Fig. 6: Podsmreka 2. Types of bowls (SK). Scale = 1:6.

Sl. 6: Podsmreka 2. Tipi skodel (SK). M. = 1:6.

Sector 1: near Concentration 8, Grid Square 185 (Building 1); Sector 2: Grave 5 (Pl. 4: 10) (App. 1; cf. Murgelj 2013, G119, G1123).

The earliest bowls of this form include a pronged example from cremation Grave 188 in the Middle Bronze Age cemetery at Pitten, which has been attributed to the Late Tumulus culture or early part of the Urnfield culture on the basis of the associated spherical-headed pin (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, 112, Pl. 231: 13; Benkovsky-Pivovarová 1982–1985, 98).

In the Vörs – Papkert B cemetery in Hungary, such a single-handled cup with four prongs at the rim was found in Grave 20–22, attributed to the early phase of the Urnfield culture or the early phase of the cemetery with a marked Tumulus culture tradition (Honti 1993, 147, Fig. 1: 1). The bowl from the

settlement at Kurilovec – Belinščica is dated to BA B2 / C–BA D (Kudelić 2016, 28, Pl. 4: 1).

The SK 1/1 bowls have parallels in the Type Sk 1 dishes from Oloris (Dular, Šavel, Tecco Hvala 2002, 154, Fig. 9), one from Grave 2 at the Potrčeva cesta site in Ptuj (Jevremov 1988–1989, 175, Fig. 3: 4) and one from Pit SE 621 in the settlement at Sodolek (Kavur 2012, 81, Fig. 7: 1); they date to BA C/D. Individual sherds also came to light in Turjeva jama or Kovačeva jama at the River Nadiža (Bressan 1988–1989, 521, Pl. 3: 5; Knavs, Mlinar 2005, 70, Pl. 3: 7).

In the Gređani necropolis, dated to BA D and Ha A1, such bowls with a single handle were found among the goods in Graves 16 and 22. In Grave 32, probably of a child, a bowl with four prongs at the rim served to cover the urn (Minichreiter

1982–1983, 21, Pl. 6; 7; 10; 25). Sharing the same dating is a similar sherd recovered from the settlement at Velimirovac – Arenda (Kulenović 2018, 9, Pl. 1: 2).

– *Subtype SK 1/2*

The bowls of Subtype SK 1/2 have the rim of the same diameter as the body at the carination (Fig. 5: SK 1/2).

Sector 1: Concentrations 10, 17 and postholes (Patch 1); Sector 2: Concentration 4, Grave 3 (Pl. 4: 4) and Grave 4 (Pl. 2: 4) (App. 1; cf. Murgelj 2013, G482, G644, G685, G1111, G1116, G1130).

A parallel may be identified in a bowl from Žlebič near Ribnica, which is decorated with a cordon with impressions at maximum diameter that crosses a rib with impressions running from the rim across maximum diameter (Puš 1988–1989, 348, Pl. 9: 1). Similar bowls were found in the settlement at Most na Soči, of which only a carinated sherd survives and dates to BA C2–Ha A1 (Svoljšak 1988–1989, Pl. 8: 12), in Turjeva jama/Kovačeva jama (Bressan 1988–1989, 521, Pl. 3: 6,8), at Medvode – Svetje (Leghissa 2011, Fig. 60; 106) and in Pit SE 287 of the settlement at Sodolek, attributed to BA C/D (Kavur 2012, 81, Fig. 8: 1).

Outside Slovenia, parallels come from the Bezdanjača cave, dated to BA C/D (Malinar 1998, 142, Pl. II: 4,7), and from Virovitica attributed to the same time frame (Vinski-Gasparini 1973, Pl. 11: 9,10). Slightly later is the single-handled bowl from Grave 9 in the Gređani cemetery (Minichreiter 1982–1983, 17, Pl. 4), dated to BA D/Ha A1.

In habitation contexts, such bowls were found at Mačkovac – Crišnevi (Karavanić, Mihaljević, Kalafatić 2002, Pl. 1: 6; 2: 2; 4: 2), Ivanovci Gorjanski – Palanka (Kudelić 2011, 22, Pl. 3: 2) and Podgajac – Glogovica (Kulenović 2016, 61, Pl. 8: 4), but also in a grave at Zbelava (Kalafatić, Kovačević, Vekić 2009, 38, Pl. 3: 3), all from BA C/D.

An intriguing find is the single-handled bowl found in a well on an island at Dunakeszi and attributed to the late part of the Middle Bronze Age Tumulus culture or early part of the Urnfield culture, i.e. to BA C/D (Szilas 2002, 294, Fig. 3: 2).

Similar bowls were also unearthed in the settlement at Gelsesziget, dated to BA C, and a slightly later cemetery at Balatonmagyaród – Hídvégpuszta, in Grave 12 attributed to BA D (Horváth 1994, Pl. 4: 2; 11: 6).

– *Subtype SK 1/3*

The bowls of Subtype SK 1/3 have the rim narrower compared with the carination, the latter representing maximum diameter (Fig. 6: SK 1/3).

Sector 1: Concentrations 9, 12; Sector 2: Concentration 4 (App. 1; cf. Murgelj 2013, G235, G547, G686).

The earliest examples of this subtype include the cup from Jozgina pečina, dated to BA C/D (Drechsler-Bižić 1987, Pl. I: 3). Possibly slightly later are the cup from Turjeva jama or Kovačeva jama (Bressan 1988–1989, 521, Pl. 3: 9) and the cup from Grave 7 at Gređani (Minichreiter 1982–1983, 15, Pl. 4).

Type SK 2

It has a slightly everted rim, curved neck and horizontally faceted body (Fig. 6: SK 2).

Sector 1: Concentrations 2 and 16; Sector 2: Grave 4 (Pl. 2: 6,7) (App. 1; cf. Murgelj 2013, G25, G624, G1118, G1119).

At Oloris, such bowls have been identified as Type Sk 4 (Dular, Šavel, Tecco Hvala 2002, 154, Fig. 9). A similar sherd also came to light in the settlement excavated at Bratonci in the Prekmurje region (Guštin 2013, 37, Pl. 4: 4).

The earliest examples (BA C1/C2) include the bowls from northern Italian sites along the Po and its tributaries (Urban 1993, 12, Fig. 126: 9).

At Pitten, horizontal faceting on the body can be seen on a jar from cremation Grave 121 and a fragment of a single-handled bowl from cremation Grave 135. The former, Grave 121, also held a pair of spherical-headed pins and a bracelet with rolled ends that date the burial to the Late Tumulus or Early Urnfield culture (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, Pl. 219: 10; 222: 12; Benkovsky-Pivovarová 1982–1985, 98).

Attributed to Phase I of the Urnfield culture or BA C/D are the similar single-handled bowls from the hearth next to Grave 4 and from Grave 14 in the Bezdanjača cave (Drechsler-Bižić 1979–1980, 35, Pl. 9: 1; 12: 4; Malinar 1998, 142, Pl. 2: 3), but also one from a grave at Voćin (Ložnjak 2003, 35, Pl. 1: 1). The same time frame and decoration pertain to the vessels from the settlements at Virovitica – Antunovac (Pavišić 1993, 25, Pl. 1: 5) and Cerine 7 near Koprivnica (Kulenović 2004, 318, Pl. 8).

Type SK 3

It has a rounded body and everted rim with a strap handle attached below it. Decoration is rare and comprises elongated knobs or small tongue-shaped lugs at maximum diameter (Fig. 6: SK 3).

Sector 1: Concentrations 8 and 9; Sector 2: Concentration 23 (App. 1; cf. Murgelj 2013, G98, G204, G207, G927).

The earliest examples include a single-handled dish from Pitten, which was found in the central, earliest Grave f of Tumulus 163, attributed to the initial phase of the cemetery, i.e. BA B1 on the basis of the associated pins and two bronze daggers (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, 96, Pl. 228: 2; Benkovsky-Pivovarová 1982–1985, 94).

Such cups from the Moravče cemetery near Sesevete are dated to Phase I of the Urnfield culture (BA C/D). From Grave 1, a two-handled urn bears two small tongue-shaped lugs at maximum diameter. Two were also found in Grave 8: one a two-handled bowl with elongated knobs at maximum diameter that covered the ashes of the deceased and the other decorated with four small tongue-shaped lugs (Sokol 1996, Fig. 4: 3; 15: 2,3). Sherds of two such bowls were laid into a grave at Zbelava (Kalafatić, Kovačević, Vekić 2009, 38, Pl. 3: 1,2). Another similar example is a single-handled bowl from Grave 4 in Bezdanjača (Drechsler-Bižić 1979–1980, 35, Pl. 8: 9). The same dating applies to such bowls from the settlements at Žlebič (Puš 1988–1989, 350, Pl. 3: 1) and Podgajac – Glogovica (Kulenović 2016, 61, Pl. 9: 2). In the Gređani cemetery, Grave 8 held two single-handled bowls/cups, one of which was decorated with three elongated knobs at maximum diameter, as was a single-handled bowl from Grave 27 (Minichreiter 1982–1983, 15, 26, Pl. 4: 8).

Type SK 4

It has a conical or rounded body, curved neck, everted rim and strap handle attached at maximum diameter (Fig. 6: SK 4). It is similar in form to the dishes of Types S 3 and S 4, but has the proportions of bowls.

Sector 1: Concentration 9; Sector 2: Concentration 4 (App. 1; cf. Murgelj 2013, G208, G684).

A similar vessel was found in the settlement at Kalnik – Igrišče (Vrdoljak 1994, 27, Pl. 7: 2). In the Gređani necropolis, single-handled bowls of this type were used as urn cover the cremated remains in Graves 38, 40, 50 and 52 (Minichreiter 1982–1983, 33, 40, 43, Pl. 11; 14).

Type SK 5

It has a slightly S-shaped profile and an everted rim, in one example bearing prongs, and a strap handle attached below the rim. It is decorated with semicircular or straight cordons and round appliqués with impressions (Fig. 6: SK 5).

Sector 1: near Concentration 8, Grid Square 185 (Building 1), Concentrations 9 and 12; Sector 2:

Concentrations 6, 41 and Grave 1 (Pl. 1: 3) (App. 1; cf. Murgelj 2013, G135, G211, G263, G288, G364, G545, G705, G1096).

At Oloris, similar vessels have been identified as Type S 8 dishes (Dular, Šavel, Tecco Hvala 2002, Fig. 8). The examples from Most na Soči date to BA C2–Ha A (Svoljšak 1988–1989, 371, Pl. 8: 4,5).

Type SK 6

It has a slightly bell-shaped body and everted rim with a sharp interior rim-body junction (Fig. 6: SK 6).

Sector 1: Concentrations 1 and 10; Sector 2: Concentrations 6 and 23 (App. 1; cf. Murgelj 2013, G3, G465, G704, G921).

A similar single-handled bowl is known from Bezdanjača, found in the hearth next to Grave 5 and dated to BA C/D (Drechsler-Bižić 1979–1980, 35, Pl. 10: 5).

Type SK 7

It has a slightly rounded body and slightly everted rim, either without or with strap handles attached below the rim or on the upper body. It may be decorated with cordons bearing tongue-shaped lugs (Fig. 6: SK 7).

Sector 1: near Concentration 8, Grid Squares 185, 190A (Building 1), Concentrations 3, 10 and 12; Sector 2: Concentrations 3, 17, 27, 39 and 47 (App. 1; cf. Murgelj 2013, G70, G136, G180, G499, G549, G667, G876, G935, G1014, G1063, G1064).

The early examples include a bowl with two strap handles attached at the rim from Grave 2 at Orešac, in the Banat region, which has been attributed to the early phase of the Middle Bronze Age (Majnarić-Pandžić 1989b, Pl. 2: 5), and a bowl with four small tongue-shaped lugs below the rim from Grave 8 in Bezdanjača, dated to BA C/D (Drechsler-Bižić 1979–1980, 34, Pl. 11: 3). The fragment of the upper part of a vessels unearthed on Gradišče above Ajdovščina is later, dated to BA D/Ha A1 (Svoljšak 1988–1989, 379, Pl. 1: 9).

Type SK 8

It has a gently rounded body and slightly in-turned rim with a flat, rounded or T-shaped lip thickened on the exterior, the interior or both. It has either no handles or strap handles attached at/just below the rim or at mid-section (Fig. 6: SK 8).

Sector 1: Concentrations 3, 9, 10, 12 and near Concentration 8, Grid Squares 180 and 190A (Building 1); Sector 2: Concentrations 8 and 37

(*App. 1*; cf. Murgelj 2013, G71, G168, G185, G190, G285, G506, G518, G520, G544, G711, G995, G996).

This type includes several sherds with different rims that have been attributed to Phase I of the Urnfield culture (BA C/D) and found in the settlement at Mali Zagreb in Špišič Bukovica (Pavišić 1991, 9, Pl. 3: 1–2,4–7), as well as in Turjeva jama/Kovačeva jama at the River Nadiža (Knavs, Mlinar 2005, 70, Pl. 3: 2).

Others are among the BA D/Ha A1 finds from Gradišče above Ajdovščina (Svoljšak 1988–1989, Pl. 1: 4,7) and Kalnik – Igrišče; the latter settlement yielded two such bowls (Vrdoljak 1994, 29, Pl. 14: 2,3).

In the flat cremation cemetery at Grabovica near Doboj, where graves were arranged in rows and the burial revealed characteristics of the Barice-Gredžani group, a single-handled bowl of this type was placed in the grave next to the urn (Belić 1966, 34, Pl. VI: 5). A similar situation has been recorded in the Gredani necropolis, where Grave 42 held a two-handled bowl with a flat rim, spout just above the handle and foot-ring covering the cremated remains and dating to BA D/Ha A1 (Minichreiter 1982–1983, 36, 40, Pl. 12; 13).

Cups

These are small vessels that make up 1.2% of the analysed finds; they have been divided into five types (*Fig. 7*).

Type SKO 1

It has a conical body, pedestal and single small handle, in some cases decorated with a cordon with impressions (*Fig. 7*: SKO 1). I distinguish between three basic subtypes of pedestal cups: conical, biconical and rounded. They came to light in both burial and habitation contexts (Murgelj 2012, *Fig. 2*, 133–142).

Sector 1: Concentration 3; Sector 2: Concentrations 3, 8, 42, 55, Grave 1 (*Pl. 1*: 4) (*App. 1*; cf. Murgelj 2013, G79, G668, G733, G1042, G1089, G1095).

The best preserved is the single-handled conical pedestal cup with a cordon decorated with oblique incisions and three small knobs, excavated in Concentration 3 (Murgelj 2013, G668).

Ksenija Vinski-Gasparini sought the origin of these cups, or pedestal goblets as she described them, in the central Danube Basin, where they can be traced from the final phase of the Middle

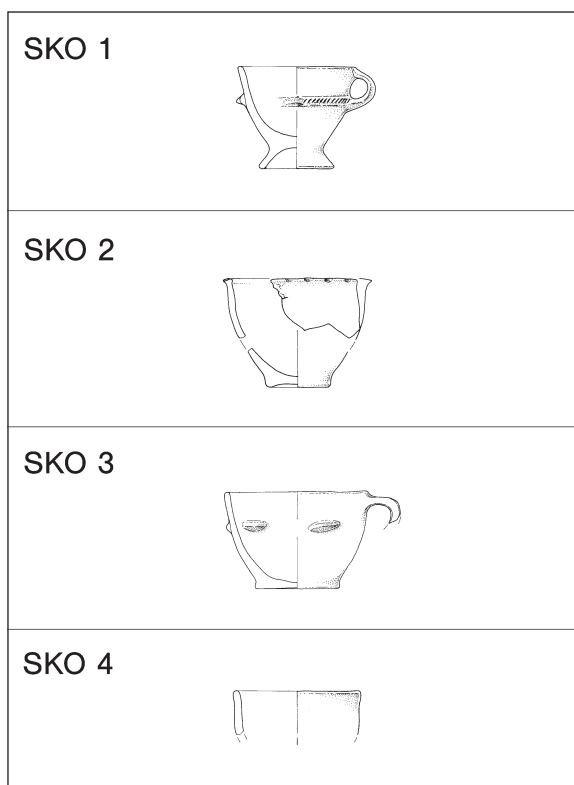


Fig. 7: Podsmreka 2. Types of cups (SKO). Scale = 1:6.
Sl. 7: Podsmreka 2. Tipi skodelic (SKO). M. = 1:6.

Bronze Age through the earliest phase of the Urnfield culture and into Ha A (Vinski-Gasparini 1973, 40).

However, their distribution rather points to an origin between the Rivers Drava and Sava, in the area of the Virovitica group; in Slovenia, they only came to light at the sites of the Oloris-Podsmreka horizon (Murgelj 2012, 137, *Fig. 2*).

Type SKO 2

It has a conical body, foot-ring, rim thickened on the exterior or both the exterior and interior, lip decorated with impressions and strap handle attached at the rim and body (*Fig. 7*: SKO 2).

Sector 1: Concentration 2, posthole (Patch 1; Patch 3) (*App. 1*; cf. Murgelj 2013, G24, G1131, G1138).

Similar cups came to light in Graves 4 and 5 at Virovitica, one of them decorated with a cordon and garlands with impressions (Vinski-Gasparini 1973, Pl. 8: 9; 9: 7). Formally similar, but much larger are two vessels from Moravče near Sesvete; one was placed in Grave 2 and the other used as an urn in Grave 9; both are decorated with appliqués on the neck or shoulder. A slightly smaller example is the single-handled cup with four prongs at the rim from Grave 6 of the same cemetery (Sokol

1996, Fig. 2: 1; 11: 1; 17: 2). A similar fragment from a habitation context was found at Iška Loka, dated to BA D/Ha A1 (Velušček 2005, Pl. 1: 3).

Type SKO 3

It has a conical body, flat lip and strap handle attached just below the rim and on the body. It is decorated with elongated knobs at mid-section (Fig. 7: SKO 3).

Sector 2: Grave 4 (Pl. 2: 5) (App. 1; cf. Murgelj 2013, G1117).

Type SKO 4

It has a cylindrical body and gently everted rim (Fig. 7: SKO 4).

Sector 1: Concentrations 9, 17 (App. 1; cf. Murgelj 2013, G223, G643).

Miniature vessels

These small vessels in some cases imitate their larger counterparts. I distinguish between four types (Fig. 8).

Type MP 1

It is a cup with a cylindrical neck, carination at maximum diameter and oval-sectioned handle attached at the rim and maximum diameter (Fig. 8: MP 1).

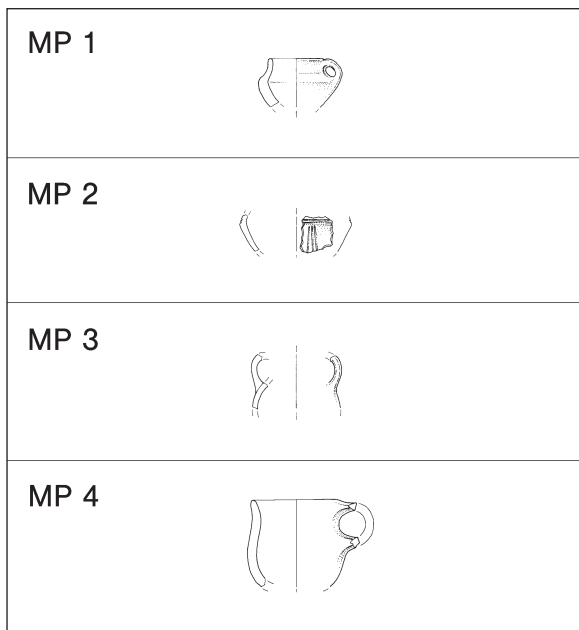


Fig. 8: Podsmreka 2. Types of miniature vessels (MP). Scale = 1:6.

Sl. 8: Podsmreka 2. Tipi miniaturnih posodic (MP). M. = 1:6.

Sector 1: Concentration 16 (App. 1; cf. Murgelj 2013, G615).

Type MP 2

It is a cup with a carination at maximum diameter. Some are decorated with horizontal and vertical incisions (Fig. 8: MP 2). They are similar to the larger bowls of Type S 1.

Sector 1: Concentrations 9 and 10 (App. 1; cf. Murgelj 2013, G258, G528).

Type MP 3

It is a globular jug with an everted rim, grooves on the shoulder and strap handles attached just below the rim and at maximum diameter; some bear groove-encircled knobs at maximum diameter (Fig. 8: MP 3). They are similar to the jars of L 3/1.

Sector 1: Concentrations 8, 9, 11 and 15; Sector 2: Concentration 8 (App. 1; cf. Murgelj 2013, G99, G374, G532, G578, G774).

Type MP 4

It is a rounded beaker with a gently everted rim and strap handles attached at the rim and shoulder (Fig. 8: MP 4).

Sector 2: Concentration 3 (App. 1; cf. Murgelj 2013, G669).

These are the most numerous among the miniature vessels at Podsmreka. They have parallels from the cemetery at Potrčeva cesta in Ptuj, where a sherd of such a vessel was found in Grave 2 (Jevremov 1988–1989, 175, Fig. 3: 5). A similar beaker, decorated with an incision and three knobs at maximum diameter was unearthed in the necropolis at Gređani, in Grave 39. Of interest in this necropolis are also Graves 66 and 70, which only held miniature pots (Minichreiter 1982–1983, 34, Pl. 11; 17; 18). Grave 66 contained eleven pots that formally imitate large dishes; five of them complete and upturned, others crushed and strewn around them. Grave 70 revealed a similar situation; it held seven pots, four of them upturned and others ritually crushed. Neither of the two graves held cremated remains, which led Kornelija Minichreiter to suggest they were cenotaphs, prepared in the memory of missing individuals. Miniature beakers with a single handle, groove at the neck-belly junction and decorative knobs occur alongside other forms of miniature pottery that imitates larger vessels in the settlement at Mačkovac – Crišnjevi (Karavanić, Mihaljević, Kalafatić 2002, Pl. 2: 3–12), where they are dated to BA C/D.

Katalin Jankovits interprets miniature vessels as either children's toys or cult vessels used in the burial ritual (Jankovits 1992, 75).

Amphorae

These are biconical vessels with a curved neck and everted rim. The paired strap handles are attached just below the rim or at maximum diameter. They are decorated with grooves on the shoulder, as well as knobs with semicircular downturned grooves or knobs encircled with incised rings at maximum diameter (Fig. 9: A).

Sector 2: Concentration 38, Grave 2 (Pl. 2: 3) and Grave 5 (Pl. 4: 9) (App. 1; cf. Murgelj 2013, G1011, G1103, G1122).

Amphorae are rare finds at Podsmreka. What is also rare is the decoration on two sherds from graves, consisting of several parallel horizontal incisions on the shoulder coupled with knobs with semicircular downturned grooves (Murgelj 2013, G1122) or knobs encircled with incised concentric rings at maximum diameter (ib., G1103).

In Grave 5, an amphora was used as the urn that held the ashes and cremated remains of the deceased (ib., G1122).

Such knobs are also to be found on a single-handled jug from Grave 116 at Pitten, which has been attributed to the beginnings of the cemetery, i.e. BA B1 on the basis of two disc-headed pins with a hole in the neck and rosette-sectioned shank (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, Fig. 218: 9; Benkovsky-Pivovarová 1982–1985, 93). Of the same dating is the jug from Grave D of the cemetery at Ivánca in Hungary (Kovács 1977, 53, Fig. 3: 6), on which such a knob occurs in combination with vertical grooves separated by impressed dots.

In Slovakia, such knobs can be found on the vessels from the Šafarikovo cemetery attributable to the Piliny culture, i.e. to BA B2/C1 (Furmánek 1977). They are also common on the vessels from the Salka I cemetery, of the Tumulus culture (BA C), adorning the shoulder or maximum diameter of vessels from cremation Graves 8, 31, 46, 62, 77, 174, but also the vessels from the contemporary cemetery at Malá above Hron, in a cremation grave in Tumulus 34/3 (Točík 1964, Pl. 8: 10; 11: 5; 12: 11; 14: 6; 17: 2; 29: 6; 35: 4).

In Moravia, this decoration mainly occurs on jugs and amphorae from habitation contexts, most commonly pits. Such examples came to light at

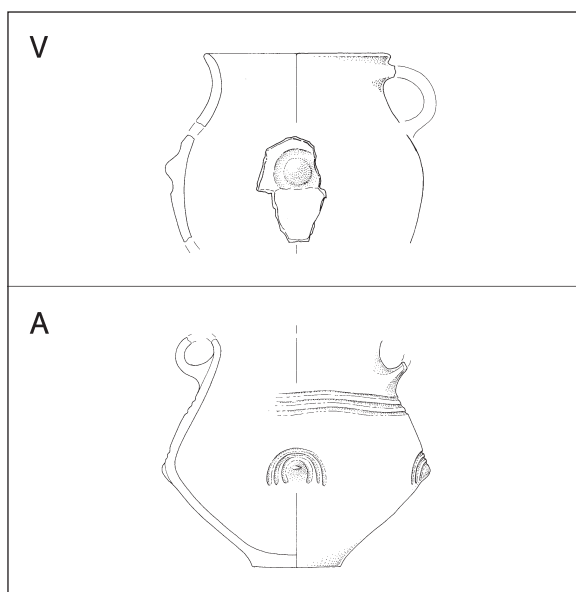


Fig. 9: Podsmreka 2. Types of jugs (V) and amphorae (A). Scale = 1:6.

Sl. 9: Podsmreka 2. Tipi vrčev (V) in amfor (A). M. = 1:6.

Bohdalice, Jiříkovice, found together with pronged dishes, and at Mikulov and Věteřov (Říhorský 1982, Pl. 3B: 3; 6D: 7; 9E; 16A: 1,4,6). In burial contexts, such vessels were found in urn Grave 2 at Koberžice together with two nail-headed pins and in an inhumation grave at Křenovice together with a roll-headed pin. Several examples were found in a pottery hoard at Želešice (Říhorský 1982, Pl. 7D: 5,6; 8B: 1; 17: 3,11,13,14,17). All these finds originate in the central Danubian Tumulus culture and continue into the transition from the Middle to the Late Bronze Age, i.e. in the Blučina-Kopčany phase (BA C/D).

Also early (BA B1–BA C2) are the vessels with such decoration from the Po Plain, which are formally close to the amphora from Podsmreka (Urban 1993, Fig. 95; 143: 1,14,15).

The second vessel identified as an amphora is represented by several sherds found in Grave 2. It is decorated with horizontal incisions on the shoulder and a knob encircled with incised concentric rings at maximum diameter (Pl. 2: 3).

The motif of an encircled knob or the sun disc, as it is sometimes called in literature, was spread across wide areas from Hungary to Lika, Istria and the Po Plain, and in use from the Early to the Middle Bronze Age and early Ha A. It has been found among the habitation remains at Feudvar, on encrusted pottery from the early phase of the Early Bronze Age, i.e. BA A2 (Hänsel, Medović 1994, 191, Fig. 7: 1–8). Attributed to the second

half of the Middle Bronze Age is a sherd with such a motif found in the hillfort on Monkodonja (Hänsel, Mihovilić, Teržan 1997, 91, Fig. 44: 10). In northern Italy, the decoration of semicircular grooves and concentric rings appears on jars and amphorae already in BA B1 and continues to BA C2, usually at the same sites, mostly north of the Po and less common to the east and west (Urban 1993, 128, Fig. 95).

A sherd found in the settlement at Gelsesziged, Hungary, has been attributed to the Tumulus culture or BA C (Horváth 1994, Pl. 5: 2).

In Moravia, such decoration occurs at the maximum diameter of vessels with a pronouncedly cylindrical neck found in the settlement on Blučina-Cezavy and in an urn grave at Ivančice (Říhový 1982, Pl. 61C: 1; 64A: 2). These finds are dated to the transition from the Middle to the Late Bronze Age, to the Blučina-Kopčany phase (BA C/D). The same dating pertains to the jar decorated with three incision-encircled knobs that was found in a well on an island at Dunakeszi on the Danube (Szilas 2002, 295, Fig. 4: 1).

In the cemetery at Grabovica, near Dobož, the goods in urn Grave 4 included a vessel with a cylindrical neck and four elongated knobs encircled with three or four shallow incised concentric rings at maximum diameter; the burial has been attributed to the Barice-Gredžani group, i.e. BA D/Ha A1 (Belić 1966, 33, Pl. VI: 6).

Similar in form and decoration are also the amphorae found in Blocks 13 and 14 in Bezdanjača and dated to BA C/D, as well as the subsequently found sherd bearing a knob encircled with concentric rings (Drechsler-Bižić 1979–1980, 35, Pl. 37: 1; 39: 3; Malinar 1998, 142, Pl. 3: 21).

Jugs

They are vessels with a narrow curved neck, everted rim and rounded belly. The strap handle is attached just below the rim. One of the jugs bears incised decoration on the shoulder and maximum diameter, one a knob encircled with a wide groove at maximum diameter (Fig. 9: V).

Sector 1: Concentrations 9 and 16 (*App. 1*; cf. Murgelj 2013, G329, G330, G611).

Such jugs from Oloris have been identified as Type V 1 (Dular, Šavel, Tecco Hvala 2002, 154, Fig. 9). A similar jug served as the urn in Grave 3 at Potrčeva cesta in Ptuj, decorated with three knobs at maximum diameter and a groove on the

shoulder; it has been dated to Phase I of the Urn-field culture (Jevremov 1988–1989, 175, Fig. 4: 1).

Jars

Jars are the most numerous group of pottery and represent 16.9% of the analysed assemblage. They may or may not have handles and have been divided with regards to their proportions (the minimum neck diameter is the same or larger than the maximum diameter) and formal characteristics. I distinguish between fifteen types (Fig. 10–11).

Type L 1

It is relatively small, oval or biconical with a gently everted rim. One example is decorated with groups of vertical grooves and impressed dots, one with a knob at maximum diameter and one with horizontal or vertical incisions on the shoulder (Fig. 10: L 1).

Sector 1: Concentrations 3, 6, near Concentration 8, in Grid Squares 185 and 190A (Building 1), in Concentrations 9 and 10 and posthole (Patch 3); Sector 2: Concentrations 2, 8, 17, 34, 37, 42 and 43 (*App. 1*; cf. Murgelj 2013, G91, G103, G138, G181, G265, G361, G388, G472, G481, G505, G660, G710, G713, G715, G877, G957, G994, G1038, G1050, G1139).

Similar jars from Oloris have been identified as Type L 6 (Dular, Šavel, Tecco Hvala 2002, 147, Fig. 5). Further parallels come from the settlement at Žlebič near Ribnica, dated to BA C/ D (Puš 1988–1989, 346, Pl. 7: 1), Turjeva jama (Knavs, Mlinar 2005, 69, Pl. 2: 4) and Gradišče above Ajdovščina, dated to BA C2/Ha A1 (Svoljšak 1988–1989, 371, Pl. 1: 3).

Similar jars with two tongue-shaped lugs at maximum diameter came to light in the cemeteries at Virovitica – Ciglana and Sirova Katalena, in the latter in Grave 4 (Vinski-Gasparini 1973, Pl. 11: 8; 15: 6), but also in Grave 27 in Bezdanjača, dated to BA C/D (Drechsler-Bižić 1979–1980, 35, Pl. 18: 1). Several similar single-handled jars have been found in Graves 30, 40 and 58 of the Gređani necropolis, dated to BA D/Ha A1 (Minichreiter 1982–83, Pl. 9; 11; 15).

The jars of this type from Podsmreka include an example with unique decoration, of vertical grooves separated by impressed dots (Murgelj 2013, G660). This is the only piece with this decoration from Podsmreka. A similar decorative combination is known from the Šafarikovo cemetery, where it is

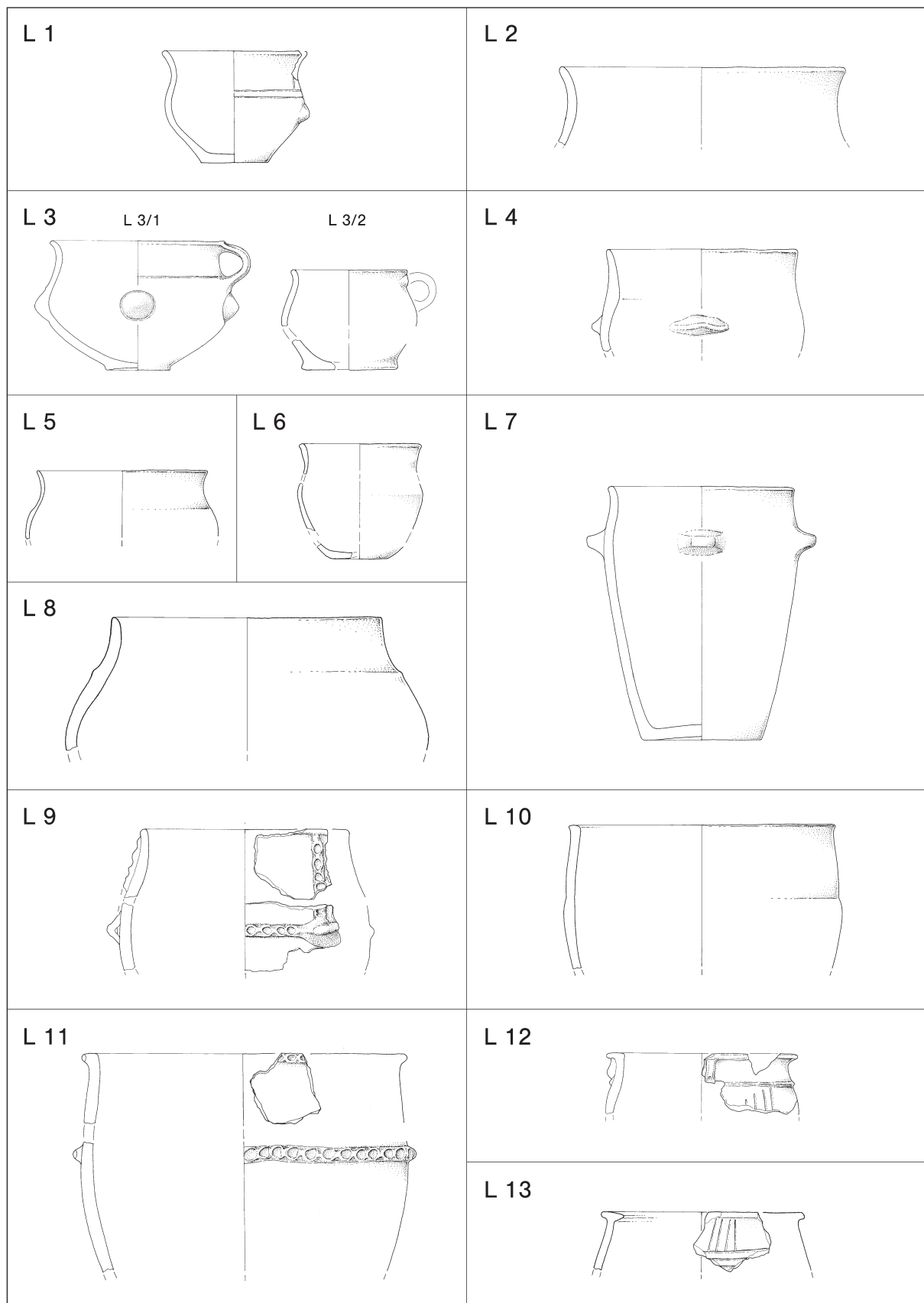


Fig. 10: Podsmreka 2. Types of jars (L 1 to L 13). Scale = 1:6.

Sl. 10: Podsmreka 2. Tipi loncev (L 1 do L 13). M. = 1:6.

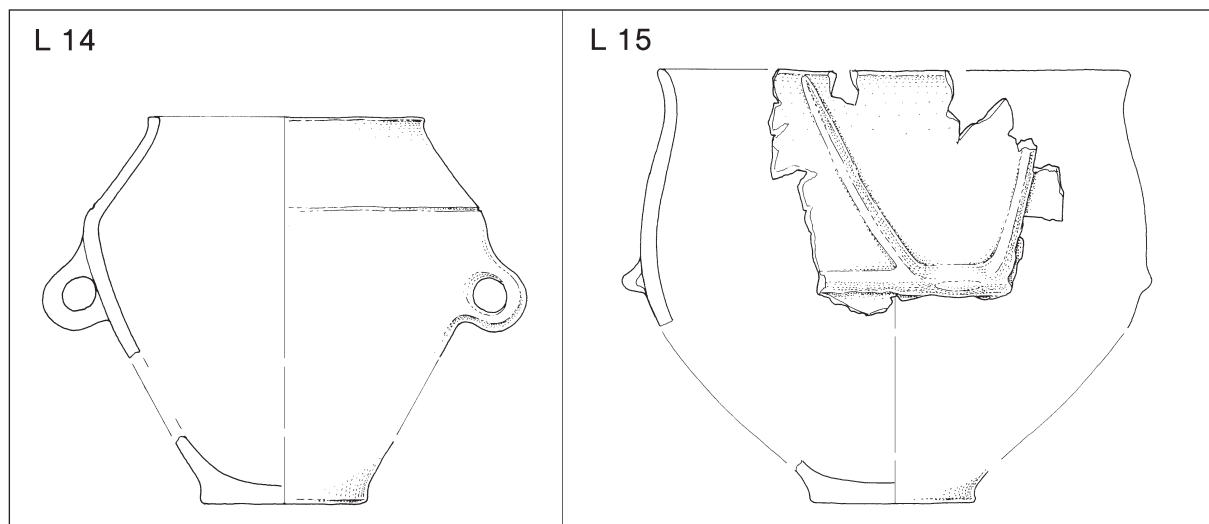


Fig. 11: Podsmreka 2. Types of jars (L 14 to L 15). Scale = 1:6.
 Sl. 11: Podsmreka 2. Tipi loncev (L 14 do L 15). M. = 1:6.

common and occurs on vessels of different forms dated from the early phase of the Piliny culture (BA B2/C1) onwards (Furmánek 1977, 300, Fig. 5; 7: 1).

Type L 2

It has an everted rim and long curved neck, in one example continuing into a rounded shoulder decorated with horizontal incisions (Fig. 10: L 2).

Sector 1: Concentration 3, near Concentration 8, in Grid Square 185 (Building 1), in Concentrations 9, 14, 17; Sector 2: Concentrations 8, 21/I, 23, 28, 35, 37, 45, 49 and Grave 3 (Pl. 3: 3) (App. 1; cf. Murgelj 2013, G2, G72, G102, G219, G261, G271, G577, G645, G738, G894, G922, G939, G941, G942, G943, G970, G976, G990, G1053, G1058, G1067, G1068, G1106).

At Oloris, similar jars have been identified as Type L 1 (Dular, Šavel, Tecco Hvala 2002, 145, Fig. 4). Others are known from the settlement at Žlebič, dated to Phase I of the Urnfield culture or BA C/D (Puš, 1988–1989, 347, Pl. 1: 11,13; 2: 3,10,11), and in Turjeva jama on the Nadiža (Knavs, Mlinar 2005, 69, Pl. 2: 2,5).

Type L 3

It has a rounded body, short curved neck and everted rim. Some are without handles, others with strap handles attached below the rim or at maximum diameter. I distinguish between Subtypes 3/1 and 3/2 (Fig. 10: L 3).

– Subtype L 3/1

The jars L 3/1 has groove-encircled knobs at maximum diameter and incisions on the shoulder.

It also has a handle, which would identify it as a wide-mouthed jug (Fig. 10: L 3/1).

Sector 2: Grave 1 (Pl. 1: 1), Grave 2 (Pl. 2: 2) and Concentration 42 (App. 1; cf. Murgelj 2013, G1037, G1094, G1102).

At Oloris, a sherd of this type bears an incised horizontal line on the shoulder and a knob at maximum diameter (Dular, Šavel, Tecco Hvala 2002, 59, Pl. 30: 4), similarly as the vessel from Grave 2 at Potrčeva cesta in Ptuj, the latter dated to BA C/D (Jevremov 1988–1989, 175, Fig. 3: 6). Another parallel came to light at Medvode – Svetje, in Pit 387 (Leghissa 2011, 193, Pl. 17: 1).

Most numerous parallels come from the cemetery at Moravče near Sesevte, more precisely from Graves 2, 3, 4, 5, 7, 8, 9 and 10 (Sokol 1996, Fig. 5: 2; 7: 2; 9: 4; 10: 12: 2; 13: 1,2; 15: 1; 18: 2; 19: 2). They are either single- or two-handled, almost all with one or more knobs at maximum diameter, some surrounded by a groove. Such vessels from the cemetery at Virovitica – Ciglana have been interpreted as cups. They were found in Graves 2, 3, 5, 6 and the damaged graves (Vinski-Gasparini 1973, Pl. 8: 6,7; 9: 2,8; 11: 7), some bearing knobs without grooves. At Sirova Katalena, similar vessels were found in Graves 1 and 10 (Vinski-Gasparini 1973, Pl. 14: 1; 16: 1). Another parallel is the sherd with two horizontal grooves and a groove-encircled knob from the settlement at Mačkovac – Crišnevi (Karavanić, Mihaljević, Kalafatić 2002, Pl. 3: 1). Also similar is the urn with two downturned tongue-shaped lugs and two groove-encircled knobs at maximum diameter from Mala Pupelica and the single-handled vessels with four knobs at maximum

diameter from Grave 7 at Drljanovac, attributed to Phase I of the Urnfield culture together with a horizontally faceted dish with an inturned rim and a globular pedestal goblet (Majnarić-Pandžić 1989a, 16, Pl. 2: 1; 6: 6). The same dating pertains to a sherd with similar decoration, of a horizontal incision on the shoulder and knob at maximum diameter, which was used as urn cover in Grave 2 at Voćin (Ložnjak 2003, 37, Pl. 3: 2), the urn from a grave at Zbelava (Kalafatić, Kovačević, Vekić 2009, 39, Pl. 2: 1), a sherd from the settlement at Ivanovci Gorjanski – Palanka (Kudelić 2011, 22, Pl. 2: 3), several sherds from the settlement at Podgajac – Glogovica (Kulenović 2016, 59, Pl. 7: 1–2; 8: 3) and a sherd from the settlement at Kurilovec – Belinščica (Kudelić 2016, 28, Pl. 6: 7).

Formally similar are a single-handled vessel decorated with a crescent-shaped appliqué on the belly from Hearth 1 beside Grave 5 and a vessel bearing an incised motif of hanging triangles from Grave 24, both from Bezdanjača and dated to BA C/D. Slightly later, from BA D/Ha A1 are a two-handled vessel in Group Grave 5 and a vessel with horizontal grooves on the neck from Block 1 (Drechsler-Bižić 1979–1980, Pl. 10: 1; 17: 1; 26: 9; 29: 1). Ružica Drechsler-Bižić established that the associated goods in Grave 5 were rooted in the Middle Bronze Age Tumulus culture, though she saw the bronze sickle as chronologically most diagnostic, which Ksenija Vinski-Gasparini dated to BA D (Vinski-Gasparini 1973, 54). An almost identical vessel with an incised line on the shoulder was found in Jozgina pečina, dated to BA C/D (Drechsler-Bižić 1987, 58, Pl. 1: 4,4a).

– *Subtype L 3/2*

The jars L 3/2 are globular with a gently everted rim (Fig. 10: L 3/2).

Sector 1: Concentration 3, near Concentration 8, in Grid Squares 185, 190, 190A (Building 1), in Concentrations 9, 10, 12, 16 and 17; Sector 2: Concentrations 3, 8, 21/I, 35, 45 and 55 (App. 1; cf. Murgelj 2013, G42, G122, G145, G177, G192, G216, G283, G296, G297, G360, G376, G466, G468–G470, G509, G557, G592, G622, G641, G671, G700, G712, G714, G739, G743, G766, G771, G780, G898, G1057, G1083).

Such jars from Oloris, identified as Type L 1, date to BA C/D (Dular, Šavel, Tecco Hvala 2002, 145, Fig. 4), as do the examples from Žlebič (Puš 1988–1989, 348, Pl. 4: 4), Grave 4 at Sirova Katalena (Vinski-Gasparini 1973, Pl. 15: 8), the settlement at Iška Loka (Velušček 2005, Pl. 5: 1) and Turjeva jama (Knavs, Mlinar 2005, 69, Pl. 2: 1,6).

Type L 4

It has a rounded body, gently everted rim and in some cases an interior break at the neck. The strap handle is attached below the rim, some have tongue-shaped lugs at maximum diameter (Fig. 10: L 4).

Sector 1: Concentration 15, posthole (Patch 1); Sector 2: Concentrations 8, 23, 41 and 45 (App. 1; cf. Murgelj 2013, G580, G709, G926, G1016, G1055, G1133).

Similar jars from Oloris have been identified as Type L 6 (Dular, Šavel, Tecco Hvala 2002, 147, Fig. 5).

Type L 5

It has a rounded body, everted rim, short funnel-shaped neck and depressed neck-shoulder junction (Fig. 10: L 5).

Sector 1: Concentration 15; 2: Concentrations 3, 8, 30, 37 and 41 (App. 1; cf. Murgelj 2013, G578, G670, G708, G746, G965, G991, G1017).

Vessels with a depressed neck-shoulder junction are known already in the Middle Bronze Age Kozsider phase (BA B1), in the Early Tumulus culture among the habitation finds at Estergályhorváti – Alsóbáránpusztá in Hungary, in the Late Tumulus culture from the settlement at Balatonmagyaród – Hídvégpusztá (BA C), also in Graves 9 and 22 (Horváth 1994, Pl. 1: 1–9; 2: 1,8; 3: 7; 4: 1,3; 10: 1,5; 12: 4) of the associated cemetery attributed to the early phase of the Late Bronze Age (BA D).

At settlements from Phase I of the Urnfield culture (BA C/D), they were found at Oloris and identified as Type L 5 (Dular, Šavel, Tecco Hvala 2002, 147, Fig. 5). Two parallels came to light in Graves 1 and 2 at Potrčeva cesta in Ptuj (Jevremov 1988–1989, 171, 175, Fig. 2: 1; 3: 3), some in Žlebič (Puš 1988–1989, 348, Pl. 2: 2), Most na Soči (Svoljšak 1988–1989, 371, Pl. 4: 6,7) and Iška Loka (Velušček 2005, Pl. 5: 3).

Outside Slovenia, jars of this type came to light in habitation contexts at Virovitica – Antunovac (Pavišić 1993, 24, Pl. 1: 3), Jozgina pečina (Drechsler-Bižić, 1987, 58, Pl. 1: 1) and Ivanovci Gorjanski – Palanka dated to BA C/D (Kudelić 2011, 19, Pl. 1: 1,3). In burial contexts, they were found in the cemeteries of the Virovitica group, more precisely in Graves 2 and 3 at Virovitica – Ciglana (Vinski-Gasparini 1973, Pl. 8: 8,10), Grave 3 in Sirova Katalena, at the Desna bara site in Vukovar (ib., Pl. 15: 3; 17: 29) and in Graves 1 and 4 at Moravče near Sesvete (Sokol 1996, 32, Fig. 4: 1,2; 9: 7,8). In Lika, a similar beaker with

a grooved handle and a horse-shaped appliqué on the shoulder was unearthed in Group Grave 3 in Bezdanjača (Drechsler-Bižić 1979–1980, 34, Pl. 24: 6). A single-handled beaker with an incision at the neck-shoulder junction was found in Grave 46 at Gređani (Minichreiter 1982–1983, 39, Pl. 13).

Type L 6

It has a slightly rounded body, vertical slightly thickened rim and gently curved neck (*Fig. 10: L 6*).

Sector 1: Concentration 7; Sector 2: Concentrations 8 and 35 (*App. 1*; cf. Murgelj 2013, G94, G782, G973).

The early examples include a small single-handled beaker with a cordon on the shoulder from the cemetery in Vörs – Papkert B, Hungary; it was found in Grave 20–22 attributed to the early phase of the cemetery (late BA C), with a marked tradition of the Tumulus culture (Honti 1993, 147, Fig. 1: 5). Another example is the jar from the settlement at Kurilovec – Belinščica (Kudelić 2016, 28, Pl. 10: 2). Similar jars were found in Graves 30 and 35 at Gređani (Minichreiter 1982–1983, Pl. 9; 10) and in the settlement at Velimirovac – Arenda (Kulenović 2018, 12, Pl. 4: 6), dated to BA D/Ha A.

Type L 7

It has a high oval body, short curved neck and gently everted rim. It is either undecorated or bears an applied cordon or tongue-shaped lugs on the shoulder (*Fig. 10: L 7*).

Sector 1: Concentration 10; Sector 2: Concentrations 21/I, 23, Grave 3 (*Pl. 3: 2*) (*App. 1*; cf. Murgelj 2013, G500, G895, G918, G1105).

Two jars with a pair of tongue-shaped lugs on the upper part were found in the cave of Spodmol pod Macesnovo gorico near Kočevje (Bavdek, Mihevc 1995, 82, Fig. 5). Such a jar from Rabelčja vas (Strmčnik-Gulič 1988–1989, 158, Pl. 6: 1) is dated to the Middle Bronze Age (BA B2–C1 to BA C2–D), the jar found in one of the storage pits at Medvode – Svetje (Leghissa 2011, Pl. 21: 1) to the Oloris-Podsmreka horizon. Snježana Vrdoljak ascribed the two examples from the settlement at Kalnik – Igrišče (BA D/Ha A2) to her Type A6b and noted that such jars came to light at numerous settlements and cemeteries of the Urnfield culture (Vrdoljak 1994, 27, Pl. 1: 1; 2: 2).

Type L 8

It has a rounded body, short conical neck and gently everted rim. One example has a cordon drawn out at the shoulder (*Fig. 10: L 8*).

Sector 1: Concentration 3; Sector 2: Concentrations 31, 41 and 55 (*App. 1*; cf. Murgelj 2013, G41, G958, G1020, G1084).

It corresponds with the jars of Type L 2 from Oloris (Dular, Šavel, Tecco Hvala 2002, 145, Fig. 4). Other examples were also found in the settlements at Iška Loka (Velušček 2005, Pl. 7: 4,5), Gradišče above Ajdovščina, dated to BA D/Ha A1 (Svoljšak 1988–1989, 371, Pl. 2: 13), and Ivanovci Gorjanski – Palanka, dated to BA C/D (Kudelić 2011, 23, Pl. 4: 2).

Type L 9

It has a rounded body, roughly conical and rather thick-walled neck and mostly everted rim with a flat lip. It is either undecorated or bears applied vertical or oblique ribs or cordons with impressions and tongue-shaped lugs at maximum diameter (*Fig. 10: L 9*).

Sector 1: Concentrations 3, 8, near Concentration 8, in Grid Square 185 (Building 1), in Concentrations 9,16; Sector 2: Concentrations 8, 35, 45 and 55 (*App. 1*; cf. Murgelj 2013, G43, G110, G146, G206, G210, G267, G393, G585, G737, G767, G971, G972, G1052, G1085).

It corresponds with the jars of Type L 2 from Oloris (Dular, Šavel, Tecco Hvala 2002, 145, 2002, Fig. 4). A similar jar from Rabelčja vas (Strmčnik-Gulič 1988–1989, 160, Pl. 7: 1) has been attributed to the Middle Bronze Age (BA B2 to BA C/D). Sherds of this jar type from Grave 2 at Potrčeva cesta in Ptuj are also dated to BA C/D (Jevremov 1988–1989, 175, Fig. 3: 8,9). The finds from the settlements at Gradišče above Ajdovščina and Most na Soči (Svoljšak 1988–1989, 371, Pl. 2: 14; 4: 8; 8: 2) have been dated more broadly (BA C2/Ha A1). Other parallels come from the BA D settlement at Virovitica – Antunovac (Pavišić 1993, 24, Pl. 1: 1) and from one of the destroyed graves of the Barice-Gređani group at Bajir in Slavonska Požega (Minichreiter 1982–1983, 67, Pl. 19: 1).

Type L 10

It has an oval body, gently conical or cylindrical neck, flat lip and rim that is slightly thickened on the exterior. One example has a slight break in the profile at the shoulder (*Fig. 10: L 10*).

Sector 1: Concentrations 1, 2, 3, near Concentration 8, in Grid Square 185 (Building 1), in Concentration 9 (*App. 1*; cf. Murgelj 2013, G16, G53, G137, G209, G262).

It can be paralleled with some jars of Type L 2 from Oloris (Dular, Šavel, Tecco Hvala 2002, 145,

Fig. 4) and Žlebič, which are made of a very coarse fabric and bear low finger impressions along the lip; they have been dated to BA C and D (Puš 1988–1989, 350, Pl. 4: 1). Others were found in the settlements at Iška Loka (Velušček 2005, Pl. 1: 1; 3: 4–6) and Ivanovci Gorjanski – Palanka, dated to BA C/D (Kudelić 2011, 23, Pl. 4: 3,4).

Type L 11

It has a gently rounded body and flat lip thickened on the exterior. Some have a cordon with or without impressions applied at maximum diameter, others are decorated at the rim (Fig. 10: L 11).

Sector 1: Concentration 8, near Concentration 8, in Grid Square 190A (Building 1), in Concentrations 9, 11, 13, 16, posthole (Patch 1); Sector 2: Concentration 23 (App. 1; cf. Murgelj 2013, G184, G186, G214, G282, G286, G287, G310, G316, G394–G397, G422, G541, G584, G699, G920, G1132).

It corresponds with the jars of Type L 10 from Oloris (Dular, Šavel, Tecco Hvala 2002, 150, Fig. 6). Similar jars were found in the settlements at Most na Soči, dated to BA C2/Ha A1 (Svoljšak 1988–1989, 371, Pl. 7: 5), and Kalnik – Igrišče, the latter site yielding a jar with impressions along the rim and applied shoulder cordon, as well as four tongue-shaped lugs identified as Type A3e (Vrdoljak 1994, 24, Pl. 4: 2).

Type L 12

It has a rounded or biconical body and horizontally everted rim with a flat lip. One jar is decorated with applied cordons and ribs combined with vertical incisions, another one with horizontal incisions above maximum diameter and three groove-encircled knobs (Fig. 10: L 12).

Sector 1: Concentrations 5, 10; Sector 2: Concentration 8 (App. 1; cf. Murgelj 2013, G88, G480, G502, G765).

Type L 13

It has an asymmetric T-shaped rim, in some cases inturned. Some vessels are decorated with different combinations of applied ribs/cordons or vertical/horizontal incisions. It includes a single example of a rim externally decorated with cordons and a knob encircled by a thin rib (Fig. 10: L 13).

Sector 1: Concentration 3, near Concentration 8, in Grid Squares 180 and 190A (Building 1), in Concentrations 9, 12, posthole (Patch 3); Sector 2: Concentration 3 (App. 1; cf. Murgelj 2013, G45, G188, G212, G257, G377, G575, G672, G1142, G1143).

Such jars from Oloris are marked as Type L 11 (Dular, Šavel, Tecco Hvala 2002, 150, Fig. 6).

Type L 14

It has an oval or biconical body, poorly defined neck and flat lip. A pair of strap handles is attached at or below maximum diameter, with groove-encircled knobs between them. Some vessels are also decorated with a groove on the shoulder (Fig. 11: L 14).

Sector 2: Concentrations 1, 3, 33 and 52 (App. 1; cf. Murgelj 2013, G655, G665, G955, G1075).

Parallels are the jars of Type L 10 from Oloris (Dular, Šavel, Tecco Hvala 2002, 150, Fig. 6), a jar from Žlebič dated to BA C/D (Puš 1988–1989, 347, Pl. 2: 1) and a two-handled jar from the settlement at Kalnik – Igrišče (Vrdoljak 1994, 39, Pl. 3: 1).

From burial contexts, a similar jar was found in Grave 2 at Sirova Katalena, from BA C/D (Vinski-Gasparini 1973, Pl. 14: 3).

Type L 15

It has a globular body and wide everted rim. It is decorated with applied horizontal and oblique cordons, as well as tongue-shaped lugs, most frequently bearing impressions (Fig. 11: L 15).

Sector 1: Concentrations 2, 3; Sector 2: Concentrations 8, 16, 18 and Grave 1 (Pl. 1: 2) (App. 1; cf. Murgelj 2013, G26, G40, G758, G872, G878, G1093).

Formal parallels from Oloris are those of Type L 1 (Dular, Šavel, Tecco Hvala 2002, 145, Fig. 4). Similar ones from Svetje in Medvode have been identified as pithoi due to their great size (Leghissa 2011, Pl. 6: 1; 11: 2; 119). Also similar is a jar sherd from Iška Loka dated to BA D/Ha A1 (Velušček 2005, 73, Pl. 5: 1). The jar from Bratonci in the Prekmurje region is slightly smaller (Guštin 2013, 38, Pl. 3: 11). In the Virovitica cemetery, such jars were mainly used as urns, decorated with groups of ribs, an incised line on the shoulder and pairs of tunnel-shaped handles or tongue-shaped lugs at maximum diameter; they came to light in Graves 1 and 4, and among the finds from destroyed graves (Vinski-Gasparini 1973, Pl. 7: 2,6; 11: 1,2,3,5,6,8), but also in Grave 4 at Sirova Katalena (ib., Pl. 15: 6). The ellipsoid jar with a pair of strap handles and knobs at maximum diameter, found covered with a dish in a grave from Lepoglava (Šimek 2003, 154, Fig. 2; 3), has also been attributed to Phase I of the Urnfield culture or BA C/D.

Standing out among the finds from the settlement at Podsmreka is a jar decorated with a plain

applied cordon and three tongue-shaped lugs at maximum diameter, with a chevron-shaped cordon applied from the lugs towards the rim (Murgelj 2013, G878). Pottery sherds with such decoration are known from sites attributed to BA C/D, for example at Oloris (Dular, Šavel, Tecco Hvala 2002, Pl. 11: 10), Sodolek (Kavur 2012, 81, Fig. 7: 3), the settlement at Mali Zagreb in Špišić Bukovica (Pavišić 1991, 6, Pl. 1: 1) and the cemetery at Moravče near Sesvete, where the one in Grave 7 was used as urn cover (Sokol 1996, 32, Fig. 13: 3). A sherd with such decoration from Cerine 7 near Koprivnica has a round appliqué with an impression at the rib junction (Marković 2003, 51, Fig. 5: 1).

Pithoi

These comprise large vessels that come in different forms. They represent 1.1% of the analysed finds and have been divided into four types (*Fig. 12*).

Type P 1

It has an ellipsoid body, high, curved and constricted neck and everted rim. Strap handles are attached at maximum diameter. It has a groove at the neck-shoulder junction (*Fig. 12: P 1*).

Sector 2: Concentration 35 (*App. 1*; cf. Murgelj 2013, G968).

The earliest formal parallels include a two-handled amphora with a cylindrical neck and a sharp neck-shoulder junction found in Grave 851 at Franzhausen and attributed to the Middle Bronze Age or BA B1/B2 (Neugebauer 1994, 150, Fig. 83: 13). Sharing the same dating are four similar ellipsoid or biconical jars with two or four strap handles at maximum diameter, unearthened in the Orešac cemetery, in the Banat region (Majnarić-Pandžić 1989b, 43, Pl. 2: 2,4; 3: 2,3).

A similar ellipsoid jar with horizontal handles was found in Rabelčja vas, in Pit 100; the pottery and rare metal finds date this settlement to BA B2/C1 – BA C2/D (Strmčnik-Gulič, 1988–1989, 158, Pl. 1: 12). Formal similarities are also observable in the pithoi from Krka and Krška jama (Murgelj 2018, 56, Pl. 1: 1; 4: 1; 5), and the pithos sherds from storage and refuse pits at Svetje in Medvode (Leghissa 2011, 120, Fig. 70), dated to the Oloris-Podsmreka horizon.

Formally similar jar, with a groove on the neck and a pair of strap handles at maximum diameter,

was used as an urn in Grave 2 at Virovitica and dated to BA C/D (Vinski-Gasparini 1973, Pl. 8: 1). The same time frame pertains to the smaller jar with a broad neck from Grave 4 in Moravče near Sesvete (Sokol 1996, 30, Fig. 8: 3) and the two-handled jars from Bezdanjača, where they came to light in group Grave 1 and Block 14 (Drechsler-Bižić 1979–1980, 35, 42, Pl. 22; 28: 1; 35: 5; 39: 4), and from Jozgina pečina (Drechsler-Bižić 1987, 58, Pl. 2: 2; 3: 2). Four similar jars came to light in the well on an island at Dunakeszi on the Danube. All jars have an everted rim, cylindrical neck with a groove at the neck-shoulder junction and a pronounced belly. Two of the jars have a pair of tunnel-shaped handles at maximum diameter, the third one a groove-encircled knob at maximum diameter and a pair of tongue-shaped lugs on the lower belly, while the fourth one has three knobs with three semicircular grooves each. The fourth one was found together with a cup (SK 1/2) in the layers deposited when the well was still in use, all others in later deposits. The finds have been attributed to the Late Tumulus culture or BA C/D (Szilas 2002, 295, Fig. 3: 4; 4: 1; 5: 1,2).

The southernmost part of the Urnfield culture cemetery at Dvorišče SAZU in Ljubljana yielded the lower part of an urn, containing the remains of a young woman, which is similar to Type P 1; it is dated to the 13th/12th centuries BC or 1270–1120 cal. BC (Gaspari 2010, 22, Fig. 11–13).

Type P 2

It has an oval body with an everted rim. It is decorated with an applied cordon and four opposing tongue-shaped lugs (*Fig. 12: P 2*).

Sector 2: Concentration 16 (*App. 1*; cf. Murgelj 2013, G873).

Type P 3

It has a globular body, externally thickened rim and flat lip. In some cases, the lip is decorated with impressions (*Fig. 12: P 3*).

Sector 1: Concentrations 4, 10; Sector 2: Concentrations 36, 37 and 41 (*App. 1*; cf. Murgelj 2013, G81, G503, G984, G989, G1034).

A similar jar came to light in Rabelčja vas, dated to the Middle Bronze Age or BA B2/BA C/D (Strmčnik-Gulič 1988–1989, 158, Pl. 4: 1). Also similar are the sherds of vessels with a flat lip or T-shaped rim unearthened in the settlement at Žlebič and dated to BA C/D (Puš 1988–1989, 347, Pl. 4: 2,3,5; 6: 7).

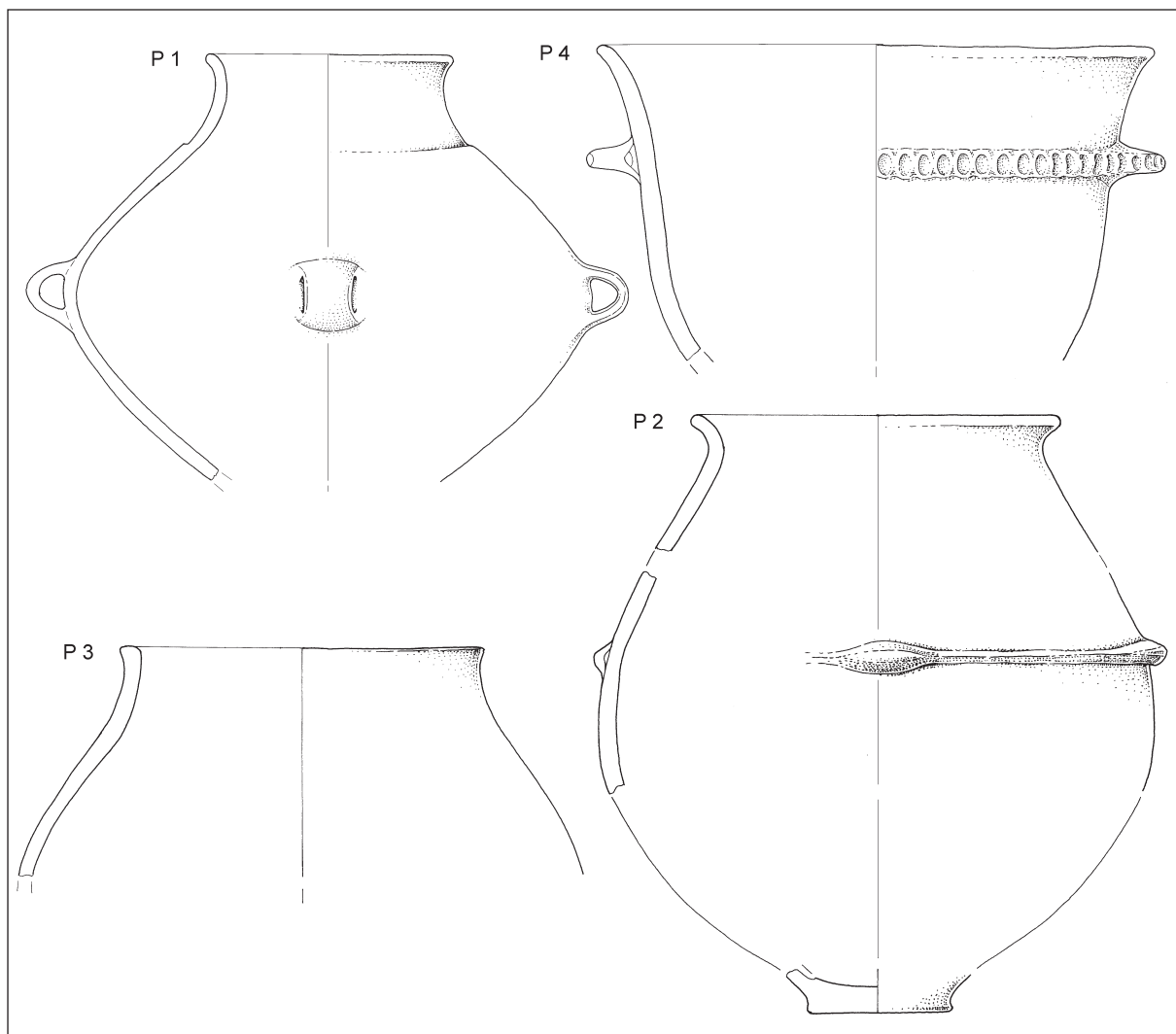


Fig. 12: Podsmreka 2. Types of pithoi (P). Scale = 1:6.

Sl. 12: Podsmreka 2. Tipi pitosov (P). M. = 1:6.

Type P 4

It has a large and bell-shaped body, everted rim and rounded or flat lip. It bears an applied cordon and tongue-shaped lugs, with or without impressions, on the upper half of the mid-section (Fig. 12: P 4).

Sector 1: Concentrations 4, 10; Sector 2: Concentration 37 (App. 1; cf. Murgelj 2013, G82, G83, G527, G988).

DECORATION

Decoration shows different manners of production: applied, incised, grooved, modelled and impressed (Fig. 13). The discussion below will only take into account the chronologically or culturally diagnostic decorative manners.

Applied decoration

This is the most common decorative technique observed on the pottery from Podsmreka. It most frequently takes the shape of cordons, which can be either plain, bear impressions or oblique slashes, followed by knobs and round appliqués.

Ribs and cordons

These frequently occur in combination with tongue-shaped lugs at maximum diameter (Fig. 13: O4–O7). They can be plain or bear impressions to match the lugs, but there are also examples of cordons/ribs with impressions and plain lugs. Less common is the combination of a decorated or plain rib/cordon and round appliqué with an impression (Fig. 13: O8–O9).

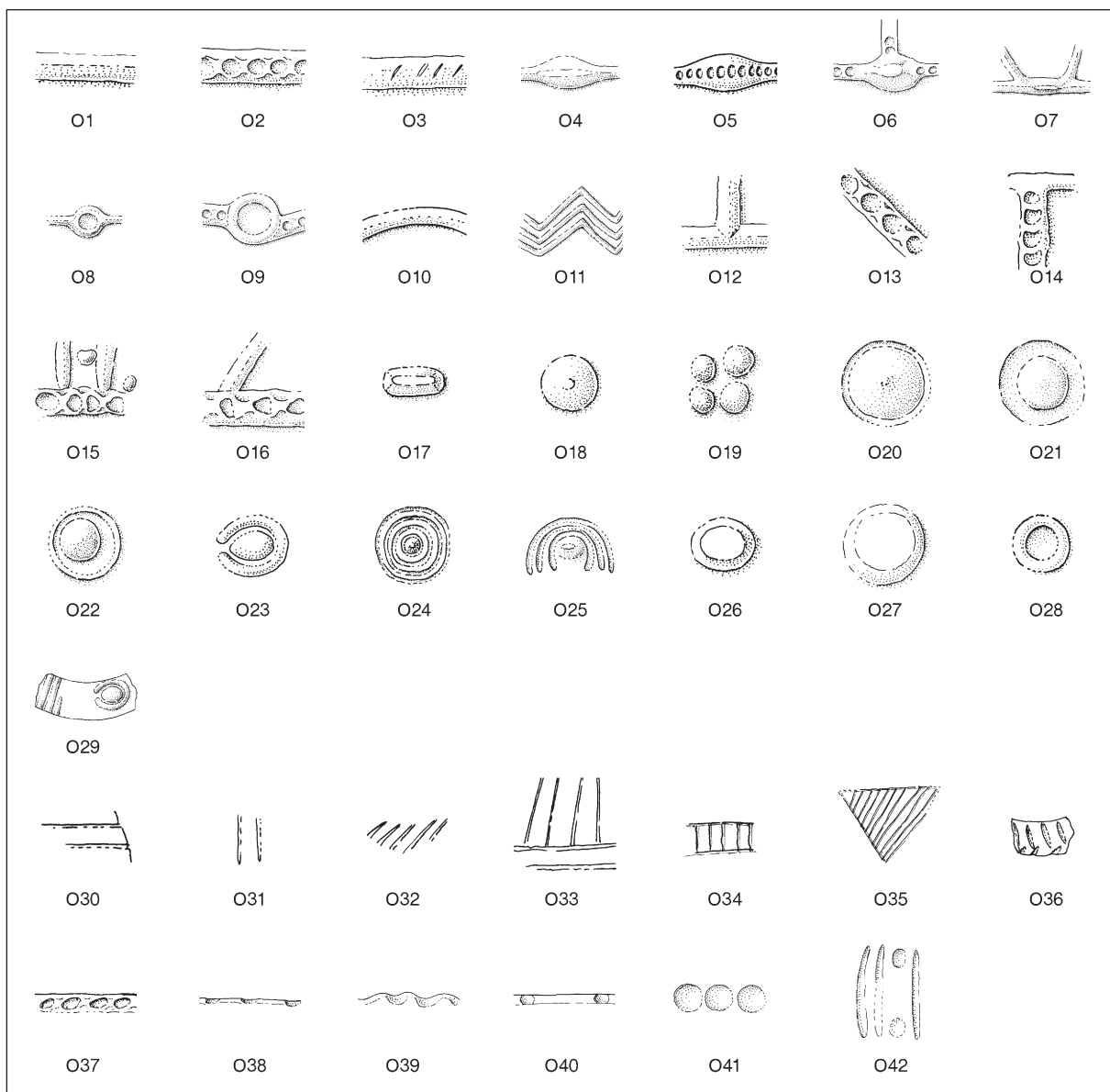


Fig. 13: Podsmreka 2. Types of decoration (O).

Sl. 13: Podsmreka 2. Tipi okrasa (O).

Ribs and cordons can be applied in a variety of ways, as either straight, semicircular (Fig. 13: O10) or zigzag lines (Fig. 13: O11). They touch each other either perpendicularly or at an angle (Fig. 13: O12, O16). They can be plain or decorated or both (Fig. 13: O16), in some cases combined with small knobs (Fig. 13: O15).

Knobs

They can be either rectangular and similar to small tongue-shaped lugs (Fig. 13: O17) or round (Fig. 13: O18), usually applied at maximum diameter or just above it. Those surrounded by a thin groove are fairly common (Fig. 13: O20),

those with a wide groove (Fig. 13: O21) or a thin rib less so (Fig. 13: O22, O23). Exceptional are a body sherd completely covered with small knobs (Fig. 13: O19) and the sherds of two amphorae with knobs enclosed with either incised concentric circles (Fig. 13: O24) or downturned semicircular grooves (Fig. 13: O25).

A large body sherd has been found in Concentration 33 of Sector 2 that is decorated with densely and randomly applied knobs (Murgelj 2013, G955).

Such decoration appears on different forms of vessels already in the Early Bronze Age in the area of the Hatvan culture (BA A2) in Hungary. The single-handled beaker from Hatvan – Boldoga has

vertically distributed knobs, the single-handled beaker from Galgamács has knobs irregularly distributed across the belly. Beakers are usually single-handled, as are the two examples from Tiszafüred, which have knobs arranged in vertical and horizontal lines across the neck and belly, with vertical and oblique ribs and incisions in between. Such vessels also occur as grave goods, for instance in Grave 6 at Örveny – Temetődomb, with knobs arranged in regular vertical lines across the neck and belly, while the single-handled beaker from Nyíregyháza has knobs in regular horizontal lines across the belly. The pithos from Tiszakarád – Bábahomoka is decorated with irregularly distributed knobs, whereas regular linear distribution can be seen on a body sherd from Felsődoboz (Kalicz 1968, Pl. 27: 10; 60: 6; 92: 5; 99: 20; 103: 15,16; 104: 7; 117: 4).

In Moravia, sherds with linearly distributed knobs came to light at the Early Bronze Age (BA A2) sites of Hodonice and Budkovice ascribed to the Věteřov group (Stuchlík 2001, 448, Fig. 7: 13,14).

In the Middle Bronze Age, such decoration was used in northern Italy, in the Po Plain (Urban 1993, Fig. 91).v

The sherd with knobs applied in straight lines from the settlement at Gelsesziget has been dated towards the end of the Tumulus culture or BA C (Horváth 1994, 221, Pl. 5: 3).

The settlement at Mačkovac – Crišnjevi (BA C / Ha A1) yielded a jar fragment with a group of knobs applied near the base (Karavanić, Mihaljević, Kalafatić 2002, 53, Pl. 3: 4). Relatively large knobs also adorn the miniature vessel from the settlement at Ivanovci Gorjanski – Palanka, dated to BA C/D (Kudelić 2011, 21, Pl. 1: 2). The similar appliqués led Borivoj Čović to ascribe the site at Barice, near the Jaružani–Laminci village, to the Early Bronze Age and tie it to the Hatvan culture that was also discovered in Slavonia (Čović 1983, 68, Pl. 1: 4).

Oval and round appliqués

Applied decoration further includes oval or round appliqués with a flat top or a round depression (Fig. 13: O26–O28).

A specific example of applied decoration is a T-shaped rim sherd that bears ribs and a knob encircled with a thin rib (Fig. 13: O29).

Incised decoration

All incisions are of the same colour as the surrounding surface, showing that decoration was

executed prior to firing. It comprises horizontal, vertical and oblique incised lines (Fig. 13: O30–O32). They occur in a combination of horizontal and vertical incisions (Fig. 13: O33), as a vertically hatched band (Fig. 13: O34) or obliquely hatched triangles (Fig. 13: O35). A specific example is a thickened rim with a flat lip that is decorated with short incisions along the exterior and upper surfaces (Fig. 13: O36).

Incisions adorn different types of vessels from both sectors of the site. In Sector 1, incised sherds came to light in Concentrations 9, 10 and 12 (App. 1; cf. Murgelj 2013, G36, G258, G261, G264, G329, G330, G438–G448, G450, G451, G455, G465, G480, G481, G550, G566–G568, G574, G575). Sector 2 yielded an amphora sherd in Grave 2 that bears a knob encircled with incised concentric circles (Concentration 12 [Pl. 2: 3]; Murgelj 2013, G1103). Incisions are either vertical, horizontal or most commonly occur as hatched triangles.

Incised hatched triangles

Pottery sherds with this motif (Fig. 13: O35) came to light in several grid squares of Sector 1, more precisely in Concentration 9 and Building 2 (Murgelj 2013, G438–G448, G451). Their highly fragmented state does not allow for a reconstruction of either the vessel form or decorative design, though it is clear they constitute a single large vessel.

Incised hatched triangles usually decorate the shoulder, upper belly or the whole belly. Such vessels came to light in the settlement at Estergályhorváti – Alsóbáránpusztá, Hungary, in its Koszider phase (BA B1) that corresponds with the early phase of the Tumulus culture (Horváth 1994, Pl. 2: 1–3), and in the Developed Tumulus culture phase (BA C) of the settlements at Balatonmagyaród – Hídvéppusztá (ib., Pl. 3: 3,6) and Gelsesziget (ib., Pl. 4: 7; 6: 3,4,6). In the Pitten cemetery, Austria, vessels with this decoration can be traced from the early phase of the cemetery (BA B1), represented by Grave 163 f (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, Pl. 227: 6), to Ha B represented by Grave 78 (ib., Pl. 240: 3,5). In Croatia, such fragments came to light in the settlements at Ivanovci Gorjanski – Palanka, dated to BA C/D (Kudelić 2011, 24, Pl. 5: 4), and Podgajac – Glogovica (Kulenović 2016, 62, Pl. 3: 3; 11: 2). The same dating pertains to the vessels from Oloris incised with groups of oblique and horizontal lines, as well as hatched triangles. The incisions here were largely made prior to firing,

in some cases afterwards. The decoration can be found on the shoulder, maximum diameter or everted rim with a flat lip (Dular, Šavel, Tecco Hvala 2002, 159, Fig. 11: O12, O13, O14). Incised hatched triangles and straight lines also adorn two amphorae unearthened in the prehistoric settlement at Šiman near Gotovlje, which date to the Middle or transition to the Late Bronze Age (Tomažič, Olič 2009, 21, G373, G375).

Grooving

Several sherds of pottery from Podsmreka bear horizontal grooves on the neck or maximum diameter (Fig. 13: O42).

Sector 1: near Concentration 8, in Grid Squares 180 and 185 (Building 1), in Grid Square 148 (Building 2), Concentration 9; Sector 2: Concentrations 28 and 31, Grave 5 (Pl. 4: 9; cf. Murgelj 2013, G137, G139, G166, G296, G340, G944, G962, G1122).

The decorative technique is characteristic of the Middle Bronze Age in the Po Plain, where it already appears in BA A2 and continues to BA C2 (Urban 1993, Fig. 120). The sherds from Istria are attributed to the same time frame, unearthened in the settlements at Gradac – Turan, in Layer 3 (Mihovilić 1997), and Monkodonja (Hänsel, Mihovilić, Teržan 1997). At Oloris, several strap handles bear longitudinal grooves, but they are not more accurately datable (Dular, Šavel, Tecco Hvala 2002, Pl. 1: 10; 2: 14; 4: 4).

Modelling

Groove-encircled knob

Sector 1: Concentrations 3, 8, 10, 12, 16 and 17; Sector 2: Concentration 1, Grave 1 (Pl. 1: 1), Grave 2 (Pl. 2: 2), near Concentration 20, in Concentrations 21, 21/I and 42 (cf. Murgelj 2013, G99, G107, G480, G548, G611, G650, G655, G724, G893, G899, G914, G1094, G1102).

Such knobs usually adorn the maximum diameter with the exception of a dish that bears a knob encircled with a thin rib on the body (Murgelj 2013, G874).

This decoration was very common in the Middle Bronze Age in Hungary, whence it spread to Slavonia (Vinski-Gasparini 1973), Moravia (Říhový 1982), Slovenia (Dular, Šavel, Tecco Hvala 2002), but also Istria (Hänsel, Mihovilić, Teržan 1997, 89, Fig. 40: 7) and the Po Plain (Urban 1993, 180, Fig. 95).

The example from the settlement at Balatonmagyarod – Hidvepuszta, southeast of Lake Balaton (Horváth 1994, Fig. 3: 5), is attributable to the Developed Tumulus culture or BA C.

In Austria, vessels with this decoration came to light in the Middle Bronze Age cemetery at Pitten, in Graves 10, 80, 89 and 116 (Hampl, Kerchler, Benkovsky-Pivovarová 1978-1981, Pl. 199: 10; 211: 7,11; 218: 9). The last of the enumerated graves also contained two disc-headed pins with a neck perforation and rosette-sectioned shank that date to the initial phase of the cemetery, to BA B1 (Benkovsky-Pivovarová 1982-1985, 93).

This ornament in Moravia characterises the pottery of the late phase of the Middle Bronze Age Tumulus culture or of the transition from the Middle to the Late Bronze Age and the Blučina-Kopčany phase (BA C/D), when sites show a mixing of the Late Tumulus and Early Urnfield cultures. The pottery hoard from Lednice included a large ellipsoid jar with this decoration on the shoulder. Other parallels came to light in the storage pits at Moravský Žižkov and Jezeřany – Maršovice (Říhový 1982, Pl. 10: 3; 12A: 5; 33C: 5,7).

In Slovenia, early parallels come from Middle Bronze Age sites. The earliest were found in the settlement at Brinjeva gora, where two single-handled jugs bearing an incised line on the shoulder and groove-encircled knobs on the belly (Pahič 1981, Fig. 28: 1,2; Gabrovec 1983, 42, Pl. 1: 13) are similar to the Type L3/1 jars from Podsmreka. At Oloris, where we would expect more numerous examples of this decoration, only three sherds and one complete jar with four handles separated by a single groove-encircled knob were recovered (Dular, Šavel, Tecco Hvala 2002, 172, Pl. 4: 13; 14: 1; 22: 9,10). The sherds with such decoration from the habitation context of Dolenjska include those from Korinjski hrib above Veliki Korinj (Dular et al. 1995, Pl. 1: 9; 2: 15,16; Grahek 2020, Pl. 13.5: 20; 13.7: 2,9) and Žlebič (Puš 1988-1989, Pl. 3: 4). The parallels geographically closest to those from Podsmreka are the pitthoi from Krka (Gabrovec 1991, 200, Fig. 11; Dular, Šavel, Tecco Hvala 2002, 179, Fig. 24; Murgelj 2018, Pl. 1: 4: 1; 5; Škvor Jernejčič 2020, 24, Pl. 20: 1; 22).

In Croatia, parallels came to light in both habitation and burial contexts, dated to Phase I of the Urnfield culture or BA C and D. At Cerine 7 near Koprivnica, groove-encircled knobs are among the most common forms of decoration, occurring on the belly (Marković 2003, 51, Fig. 5: 4,9). They are also known from the settlement at

Mačkovac – Crišnjevi, which yielded a particularly interesting rim sherd that bears such a knob on the interior side (Karavanić, Mihaljević, Kalafatić 2002, Pl. 3: 1,6,7). A sherd with such a knob on the belly also came to light in the settlements at Antunovac in Virovitica (Pavišić 1993, 25, Pl. 2: 4) and Kurilovec – Belinščica (Kudelić 2016, 34, Pl. 8: 2–3; 9: 4). Numerous knobbed sherds were found in the necropolis at Moravče near Sesvete (Sokol 1996, Fig. 5: 2; 9: 1; 12: 2; 13: 1,2; 15: 1), where some of the knobs were of a small size and without a surrounding groove, unearthed in Graves 1, 3, 4, 5 and 10 (ib., Fig. 4: 1; 7: 2; 9: 4,8; 5: 1; 19: 1,2). The cemetery at Virovitica yielded grooveless knobs on a biconical cup from Grave 5 (Vinski-Gasparini 1973, Pl. 9: 4).

Vessels with pronged rims

Sector 1: near Concentration 8, Grid Square 185A (Building 1); Sector 2: Grave 1 (Pl. 1: 3,4) and Grave 5 (Pl. 4: 10) (cf. Murgelj 2013, G123, G1095, G1096, G1123).

Prongs at the rim can mainly be found on different types of dishes, bowls and cups, at Podsmreka more precisely on the SK 5 bowl and SKO 1 cup from Grave 1, as well as the bowl from Grave 5. Pronged rims of a Middle Bronze Age date, its early part to be precise, can be found on vessels of the Koszider phase (BA B1) in the settlement at Estergályhorváti – Alsóbáránpusztá, Hungary, and among the finds of the Tumulus culture (BA C) from the settlement at Balatonmagyaród – Hídvépusztá (Horváth 1994, Pl. 2: 10; 3: 10). The tumulus at Pitten revealed prongs at the rim on a cup and a pedestal dish from cremation Grave 50a, a sherd from Grave 104 and a bowl from Grave 188 (Hampl, Kerchler, Benkovsky-Pivovarová 1978–1981, Pl. 206: 2,6; 214: 6; 231: 13). Graves 104 and 188 also contained a spherical-headed pin characteristic of the late phase of the cemetery, i.e. dating to the Late Tumulus and beginning of the Urnfield culture period (Benkovsky-Pivovarová 1982–1985, 97).

Pronged dishes are common finds in the cemeteries of Moravia, in a time when tumuli hold both inhumation and urn burials. They were unearthed in urn Grave 2 at Bučovice, in an inhumation grave of the Brno – Maloměřice cemetery, in the Lednice pottery hoard and in Tumulus 4 of the Suchohrdly cemetery, the last one more precisely in inhumation Graves 2 and 3, and urn Grave 5 (Říhovský 1982, Pl. 1C: 2; 2: 10; 11: 5,6; 14: 10; 20A: 1,10; 20B: 2; 21: 17). They have been identified as

an element of the Tumulus culture that continues into the early phase of the Urnfield culture, i.e. in the Blučina-Kopčany phase (BA C/D).

Similarly as in Moravia, the graves of the central Danubian Tumulus culture at Smolenice also hold inhumations and cremations, and in them dishes with differing numbers of handles and four prongs at the rim (Dušek 1980). This is a time and place of mixing Tumulus and Urnfield cultures (BA C/D). Erzsebet Patek dates the pottery finds with prongs from BA C onwards and sees them as a form originating in the Tumulus culture (Patek 1968, 99, Pl. 1; 6: 1,2,4). Such finds are also known from the tumulus cemeteries at Dedinka (Paulík 1984, Fig. 11: 1) and Čaka (Točík, Paulík 1960, Fig. 25: 1), which are typical representatives of the Čaka horizon (BA D) in Slovakia.

Impressed decoration

Impressing occurs on cordons and ribs, as well as rims and maximum diameters (Fig. 13: O37–O41). A specific example is a beaker adorned with a combination of round impressions and vertical grooves (Fig. 11: O42; Murgelj 2013, G660).

INCIDENCE OF POTTERY TYPES AT PODSMREKA

The combination tables produced by analysing the typologically identified vessels show the number of examples of individual types according to Concentrations of presumed buildings and according to graves (App. 1), as well as the combination of vessel types according to these contexts (App. 2). The analysis involved three buildings that yielded the most typologically diverse finds and their interrelationships.

Building 1 in Sector 1 comprised Concentration 8 in Grid Squares 180, 185, 185A, 190 and 190A (Fig. 2), Building 2 in the same sector comprised Concentrations 9, 16 and 17 in Grid Squares 141, 142, 143, 146, 147, 148, 152 and 153, while Building 4 in Sector 2 comprised Concentration 8 in Grid Squares 14, 18, 19, 20, 24 and 25. The vessel types from these buildings were also compared against the vessel types from graves.

For Building 1, analysis revealed seventeen different vessel types (five types of dishes, five of bowls and seven of jars), nineteen types for Building 2 (three types of dishes, five of bowls,

seven of jars, one jug, one cup and two miniature vessel types) and sixteen types for Building 4 (four types of dishes, one bowl, nine jar, one cup and one miniature vessel type).

Seven types of vessels are common to all three buildings (two types of dishes, one bowl and four jar types). Buildings 1 and 2 have further five types in common (two bowl and three jar types), Buildings 1 and 4 further two types of dishes. The combination table also shows that these buildings were inhabited roughly contemporaneously.

An interesting comparison is that between the vessel types from the above-mentioned buildings and those from the graves associated with the settlement. A total of fifteen vessel types (three types of dishes, four bowl, four jar, two amphora and two cup types) are represented in graves (*Pl. 1–4*). The graves and the three buildings all revealed the S 5 dishes and L 2 jars; the graves and Buildings 1 and 2 also the SK 5 bowls, the graves and Buildings 1 and 4 also the S 2 dishes, the graves and Building 1 also an S 6 dish and an SK 1/1 bowl; this makes up six types of vessels in common.

The L 3/1 jar type came to light in three examples at the site, two of them in graves and one in Concentration 42 in Sector 2. The concentration revealed four types of vessels that include L 1 jars that tie the concentration to all three above-mentioned buildings, S 6 dishes that tie it to Building 1 and an SKO 1 cup that ties it to Building 4.

Their comparison shows the same vessel types in graves and in buildings, which suggests their contemporaneity or only a minor difference in time span.

The pottery types from Podsmreka reveal a Middle Bronze Age origin. The dishes are all (except Type S 1) wide, which is a feature of Middle Bronze Age pottery. The earliest are those of Type S 5, which in the Lower Austrian cemetery at Pitten already appeared in the early part of the Middle Bronze Age (BA B1). Possibly slightly later (BA C) are the S 2 conical dishes, with parallels from the Slovak cemetery at Salka I. Other dish types have parallels from sites in Slovenia and Croatia (settlements, cemeteries, pits) that mostly date to Phase I of the Urnfield culture or the Virovitica group (BA C and partly D), but may last all to Ha A1.

The earliest among the bowls are those of Type SK 3 with parallels from Pitten (BA B1). The horizontally faceted SK 2 bowls already occur in the Middle Bronze Age in the Po Plain and its immediate vicinity, though the sites closer to

Podsmreka, in Austria, Hungary, Croatia and Slovenia reveal them towards the end of the Middle and the transition to the Late Bronze Age (BA C/D); they can also be found in later contexts, up to Ha A1.

Of the jars, Type L 5 with a grooved neck-body junction appears to be early, with parallels from Hungary dating from the early part of the Middle Bronze Age (BA B1) onwards. Parallels from the Middle Bronze Age onwards also show the jars of Types L 7 and L 9 to be of an early dating. All other jar types date from the late part of the Middle Bronze Age or transition to the Late Bronze Age (BA C/D) to Ha A1.

The P 1 and P 3 pithoi are early and date to the Middle Bronze Age. This is particularly true of the ellipsoid P 1 pithos with a constricted neck, grooved neck-body junction and four strap handles at maximum diameter. They continue to be present in Phase I of the Urnfield culture (BA C/D) and are later replaced by different forms.

Similarly as at Oloris, the pottery from Podsmreka bears quite varied decoration. It predominantly comprises cordons and ribs (with or without impressions) in different combinations. Other decoration includes several manners characteristic of the Middle Bronze Age. First and foremost, these include groove-encircled knobs, most commonly with a thin groove, in rare cases a wide groove or a groove itself encircled with a thin rib. This is a frequent Middle Bronze Age motif in Hungary, Slovakia, Moravia, Austria, less frequent in Slovenia, but also found in Istria and the Po Plain. In Slovenia and northern Croatia, it is common at sites attributed to BA C/D.

Also of an early date is decoration involving knobs surrounded by semicircular downturned grooves. It can be found on Middle Bronze Age pottery from Austria, Hungary and Slovakia, even the Po Plain. Slightly later finds come from sites in Moravia that have been attributed to the Blučina-Kopčany phase, i.e. to the transition from the Middle to the Late Bronze Age (BA C/D).

The sun disc motif or knob encircled with concentric incisions already appears in the Early Bronze Age (BA A2), among the encrusted pottery at Feudvar. In the Middle Bronze Age, this motif can be found on the vessels from Hungary, Istria and the Po Plain. Slightly later, from the transition from the Middle to the Late Bronze Age, are the examples found at Moravian sites and Bezdanjača in the Lika region, the latest ones those from the cemetery of the Barice-Gredani group at Grabovi-

ca near Doboj, in Bosnia and Herzegovina (Belić 1966), dated to BA D/Ha A1.

Small knobs densely distributed across the whole vessel are also an early decorative design. They can already be found in the Early Bronze Age (BA A2) in the area of the Hatvan culture, where they represent one of the most characteristic designs. It can also be found on contemporary pottery from sites in Moravia, in the Middle Bronze Age also on the pottery from sites in northern Italy. In Hungary, it is known towards the end of the Tumulus culture (late BA C), in northern Croatia among the habitation finds dated to BA C/Ha A1.

At Podsmreka, the incised hatched triangles on a large vessel represent Middle Bronze Age ornamentation. Vessels with such decoration of a BA B1 date are known from Hungary, where they can be traced to the transition to the Late Bronze Age. In Pitten, Austria, vessels decorated in this manner date from BA B1 to Ha B. The parallels closest to Podsmreka are those from Oloris and Šiman near Gotovlje, which are attributed to the Middle or transition to the Late Bronze Age.

Early decorative manners further include prongs on the rims of dishes and bowls. In the Middle Bronze Age (BA B1–C), they can be found in Hungary, as well as at Smolenica in Slovakia. Those from Austria and Moravia come from sites dated to the transition to the Late Bronze Age (BA C/D). Slightly later are the examples from the Čaka horizon (BA D) in Slovakia. In Slovenia and northern Croatia, examples have been unearthed in habitation and burial contexts attributed to BA C/D.

The analysis of the forms and decorative motifs has revealed strong Middle Bronze Age elements, which are particularly apparent in the decoration. Influences and possibly even imports were arriving to Podsmreka from the Danube Basin and the area between the Rivers Sava and Drava in Croatia; there are also ties with the Virovitica group, though these do appear to be less strong than those with the cemetery at Moravče near Sesvete, which also shows early elements in forms and even more so in decoration.

The analysis further revealed no later formal and ornamental features, from the BA D/Ha A1 transition, such as oblique faceting and grooving, sharp vessel profiles and high handles.

The above leads to the conclusion that the settlement at Podsmreka was inhabited in the Middle Bronze Age (BA B2/C) and was abandoned in the early part of the Late Bronze Age (BA D).

THE PLACE OF PODSMREKA AMONG THE MIDDLE BRONZE AGE SITES OF DOLENJSKA

Scarce finds show that Dolenjska in the initial part of the Middle Bronze Age (BA B1) belonged to the Middle Bronze Age Tumulus culture together with the rest of central and eastern Slovenia. These finds include a pin with a perforated thickened neck, which came to light in uncertain circumstances, but possibly in a tumulus in the area of Stična (Stare 1964–1965, 211, Pl. 1: 1; Svoljšak 2000, 115, Pl. 3: 4; Teržan 2008, 273, Fig. 38), and a conical-headed pin with a perforated thickened neck from Dobrava near Dobrnič (Stare 1964–1965, 211, Pl. 1: 2; Šinkovec 1995, 119, Pl. 36: 253; Svoljšak 2000, Fig. 3: 3). The settlement pattern of this period, but also towards its end and in the transition to the Late Bronze Age is unclear, with several hilltop settlements in Dolenjska yielding pottery sherds of a form or decoration that hints at a Middle Bronze Age date (Dular et al. 1995).

One such hilltop settlement is on *Korinjski hrib above Veliki Korinj*⁵ (Fig. 14), where the earliest finds, attributed to the Bronze Age, include sherds decorated with groove-encircled knobs, tunnel-shaped and strap handles, with cordons with and without impressions, as well as a cup with applied knobs. In addition to the pottery, there are also several metal objects, such as a chronologically diagnostic pin with a flattened spherical head and two bronze sickles (Dular et al. 1995, Pl. 2: 3,5,7–16; 3: 3,5–7). Both types of bronze artefacts are common in the hoards of Phase II in north-western Croatia dated to Ha A1 according to the Central European chronology (Vinski-Gasparini 1973). The fragment of a Wetzleinsdorf type pin shows that Veliki Korinj was inhabited in the early part of the Middle Bronze Age, in BA B1 (Grahek 2020, 293, Pl. 13.2: 16). The pottery finds include numerous ones with parallels from the sites of the Oloris-Podsmreka horizon, dating from BA B2/C1 to Ha A1 (Grahek 2020, 294). With the finds from Podsmreka, they share six types of jars (L 2, L 3/1, L 3/2, L 8, L 9, L 11, L 12), two types of dishes (S 1, S 5) and an SK 8 bowl, as well as groove-encircled knobs (Grahek 2020, Pl. 13.8: 3,7,8; 13.7: 2; 13.9: 1–2,5; 13.10: 4; 13.6: 12–13; 13.5: 10,11; 13.4: 1).

⁵ It was Jernej Pečnik who discovered the settlement (1904) and found remains from prehistory and the Roman period.

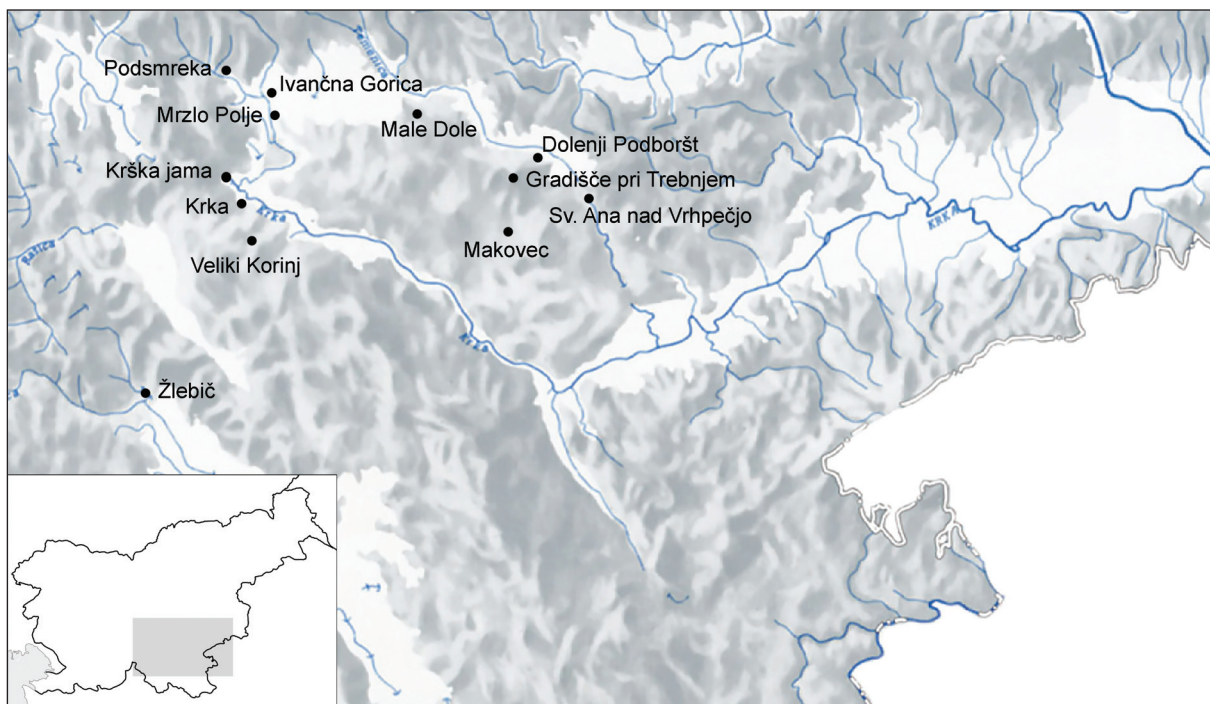


Fig. 14: Bronze Age site in western Dolenjska.

Sl. 14: Bronastodobna najdišča na območju zahodnega dela Dolenjske.

(Base / Osnova: Republiška geodetska uprava, 1982)

The pottery from *Makovec above Zagorica pri Dobrniču*⁶ (Fig. 14) includes several forms analogous to the pottery from Podsmreka, as well as sherds with cordons/ribs and tongue-shaped lugs decorated with impressions or small incisions, strap handles and large flat quernstones (Dular et al. 1995, Pl. 6: 1–8,12,13; 5: 5–8; 8: 1–8; Fig. 16).

The earliest habitation traces from *Sveta Ana above Vrhpeč*⁷ (Fig. 14) point to the Copper Age. The subsequent layer, attributed to the Late Bronze Age, mainly contained undiagnostic pottery sherds, as well as two rim-and-body fragments similar in form to the Type L4 jars from Podsmreka (Fig. 9: L 4). Also of interest are the sherds of three bowls recovered from the humus topsoil (Dular et al. 1991, 80, Pl. 7: 10,11; 9: 1–3).

*Gradišče near Trebnje*⁸ (Fig. 14) yielded several pottery forms that are not common on other hillforts of Dolenjska, particularly jars or pithoi with an internally faceted rim, several forms of bowls

and tongue-shaped lugs (Dular et al. 1991, 82, Pl. 11: 1–13; 14: 1–12; 17: 1–11; 18: 1–5; 20: 4).

Habitation traces came to light not only on hilltops, but also in the lowland, in proximity to rivers or streams.

The construction work conducted in 1985 at *Male Dole pri Stehanji vasi* (Fig. 14), for example, revealed the remains of a jar with a thickened rim and flat lip, and a strap handle bearing a knob flattened with an impression attached at the rim. The jar was found on a slope above a valley holding a small permanent lake and has been attributed to the Late Bronze Age (Pleterski 1986, 244), though the rim form and decoration show similarities with the finds from Podsmreka.

At *Ivančna Gorica* (Fig. 14), the 2008 and 2009 rescue excavations in the old bed of the local stream revealed large quantities of pottery and several bronze finds (Fig. 15) that may have come there from the presumed settlement located on the slope below the church of St Joseph. The earliest identified object is a bronze biconical-headed pin with a perforated neck, cruciform-sectioned shank and decoration consisting of semicircular and straight incisions (Fig. 15: 1). It is a Paarstadl type pin, same as the example from Brinjeva Gora (Gabrovec 1983, 40–51, Pl. I: 10–12; Pahič 1985, Pl. 14: 4; Pahič 1990, 11) and that from Dobrava

⁶ Simon Rutar first mentioned the settlement in 1899, but it was only trial trenched in 1990.

⁷ Alfonz Müllner was the first to mention the settlement (Müllner 1879, 98), but it was only investigated in recent times with a single trial trenches that revealed four habitation phases (Dular et al. 1991, 66).

⁸ The settlement was discovered during the 1987 reconnaissance (Dular et al. 1991, 81).

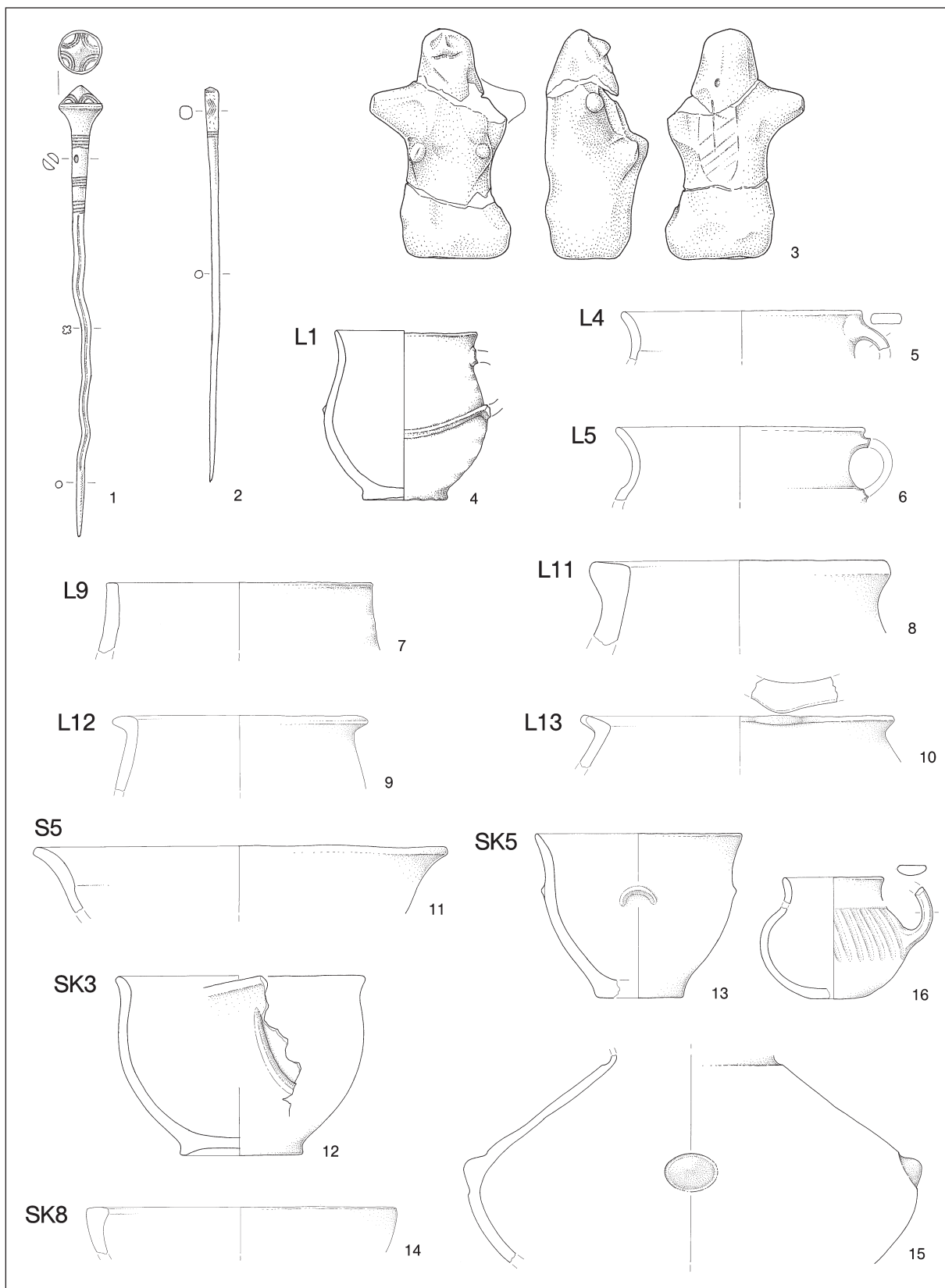


Fig. 15: Ivančna Gorica (from Plestenjak et al. 2013). Select parallels for the finds from the Podsmreka 2 site. Scale 1–3 = 1:2; 4–15 = 1:4.

Sl. 15: Ivančna Gorica (po Plestenjak et al. 2013). Izbor predmetov za primerjavo z najdiščem Podsmreka 2. M. 1–3 = 1:2; 4–15 = 1:4.

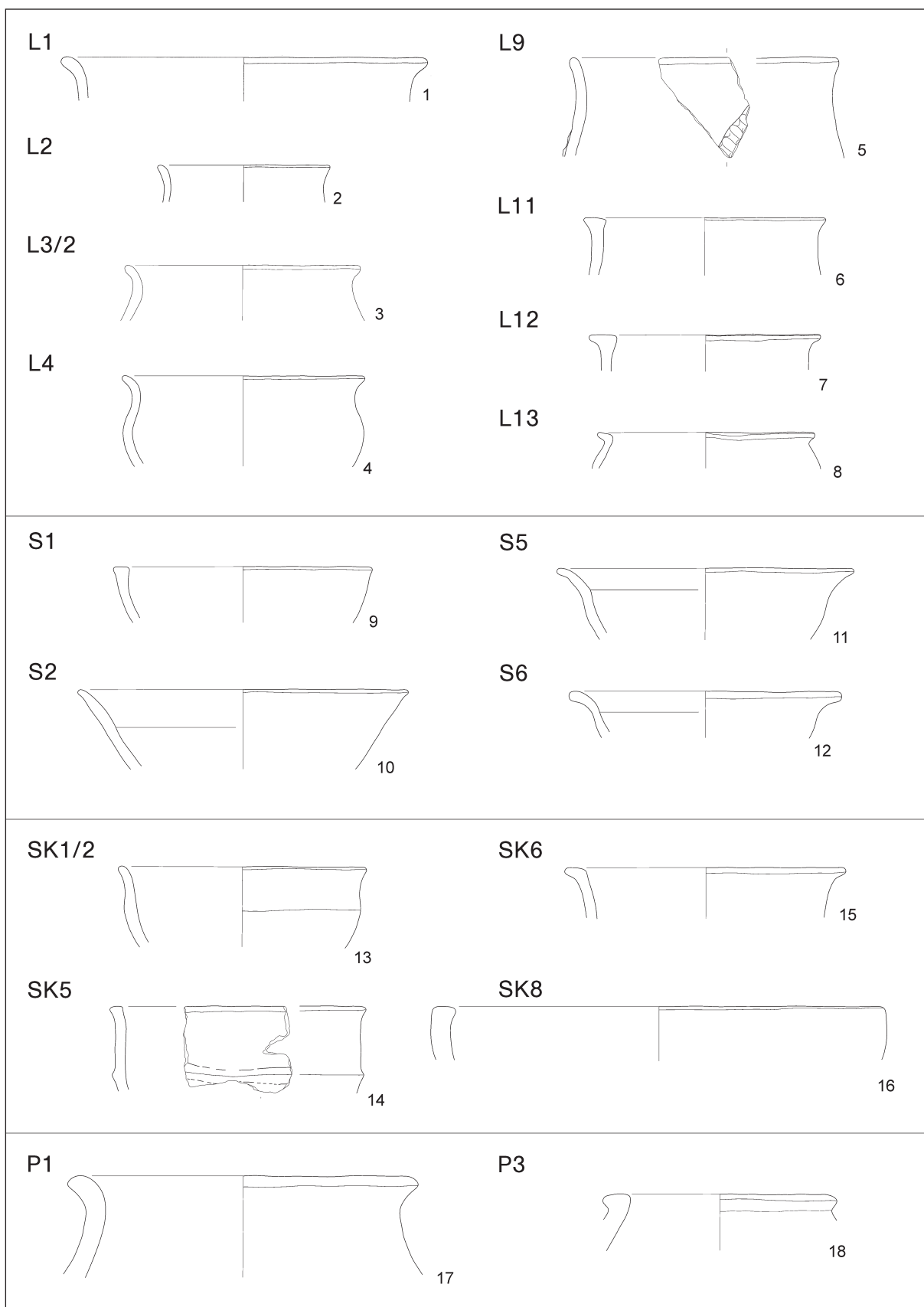


Fig. 16: Dolenji Podboršt (from Masaryk 2013). Select parallels for the finds from the Podsmreka 2 site. Scale = 1:4.
 Sl. 16: Dolenji Podboršt (po Masaryk 2013). Izbor predmetov za primerjavo z najdiščem Podsmreka 2. M. = 1:4.

near Dobrnič (Šinkovec 1995, 119, Pl. 36: 253; Svoljšak 2000, 115, Fig. 3: 3), all culturally linked to the central European Tumulus culture and dated to the beginning of the Middle Bronze Age, i.e. BA B1 (Innerhofer 2000, 34, Pl. 2; 7; 14–16; Map 3; – Plestenjak et al. 2013, 33, Pl. 7: 4). Vessels with groove-encircled knobs, T-shaped rims, externally thickened flat and pronged rims also point to a Middle Bronze Age provenance. The pottery finds with close parallels from Podsmreka comprise eight types of jars (L 1, L 4, L 5, L 9, L 11, L 12, L 13, L 14), three types of bowls (SK 1/2, SK 3, SK 5, SK 8), the S 5 dish type, a jug and several sherds of MP 3 miniature vessels, which shows a contemporaneous existence of the two settlements. The chronologically last of the Bronze Age finds is a club-headed pin decorated with thin horizontal incisions flanking an incised herringbone motif and probably also a miniature cup with oblique grooves on the body (Fig. 15: 2,16), dated to BA D/Ha A1 (Říhový 1979, 151; Teržan 1995, 327; Plestenjak et al. 2013, 31–36, Pl. 4: 1).

Few pottery sherds from *Mrzlo Polje* near Ivančna Gorica (Fig. 14) are similar to the finds from Podsmreka. They are sherds of a flat thickened rim, wall sherd with a knob surrounded by a thin groove and a fragment of a dish similar to those of Type S5 at Podsmreka. The pottery was scarce and scattered across the cultural layer, where it was probably deposited by water action from the same settlement as the above-mentioned finds from Ivančna Gorica (Jerin 2008, 62, 65, G 213, G 218, G 265, G 271, G 318).

In 1975, construction work on the grassland of the local parish church between the *Krka* village and the hamlet of Gradiček near Krška jama (Fig. 14) unearthed several ceramic vessels that were damaged and most likely originally belonged to a burial. In 2003, cavers exploring *Krška jama* stumbled upon the remains of at least four skeletons and numerous sherds of prehistoric pottery similar to those mentioned above. The pottery remains consist of pithoi and jars decorated with groove-encircled knobs and dishes with prongs at the rim with very close parallels among the pottery from Podsmreka dated to BA B2/C (Murgelj 2018; Škvor Jernejčič 2020, 24–32).

The 2007 excavations at *Dolenji Podboršt pri Trebnjem* (Fig. 14) revealed a fairly large Bronze Age settlement. Similarly as at Podsmreka, the pottery remains were unearthed in differently-sized concentrations. The two settlements also share as many as eight types of jars (L 1, L 2, L 3/2, L 4, L

9, L 11, L 12, L 13), four types of dishes (S 1, S 2, S 5, S 6), six types of bowls (SK 1/2, SK 1/3, SK 2, SK 5, SK 6, SK 8), as well as pithoi of Types P 1 and P 3 (Fig. 16; Masaryk 2013, 49). The scarce decoration comprises applied cordons and ribs with and without impressions, groove-encircled knobs and incised hatched triangles. The settlement has been dated between BA B2/C and BA D, devoid of elements characteristic of Ha A1 similarly to Podsmreka. The dating is supported by two radiocarbon dates that span the late 16th and second half of the 15th century BC, respectively (Masaryk 2013, 90–91, Fig. 60, 61).

The Bronze Age settlement known in literature under the geographic name of *Žlebič* (Fig. 14) is located several hundred metres away from the *Žlebič* village, on a small elevation on the left side of the road connecting Ribnica and Kočevje. Although its investigations only took the form of a two-day rescue excavation in advance of quarry expansion, they yielded a formally and ornamentally rich pottery assemblage pointing to human habitation in the Middle and Late Bronze Ages (Puš 1988–1989). The assemblage is comparable to that from Podsmreka in both form and decoration, as presented in the discussions on individual pottery types.

CONCLUSIONS

The Bronze Age settlement at Podsmreka is located on a gentle slope above the *Višnjica* stream, a location similar to those of several other settlements from the Middle (BA B, C) and the early part of the Late Bronze Age (BA D) known from northeastern Slovenia and Dolenjska. It was also a location in an easily passable area with valleys open to the east and to the cultural influences coming from there.

The pottery recovered from the settlement has most formal parallels from sites dated to BA C/D. However, a number of pottery types have parallels from sites with earlier beginnings, dated from BA B1 or B2 onwards. Examples of the latter are the Type S 2 and S 5 dishes, SK 3 bowls, jars of Types L 1, L 5, L 7, L 9 and the P1 and P 3 pithoi. Of this early dating are also the groove-encircled knobs, incised decoration, vessels with prongs at the rim and those with T- or P-shaped rims, as Biba Teržan already noted. She also showed that only few graves of the *Virovitica* group held pottery decorated with elements typical of the Bronze Age

Tumulus culture; she saw archaic elements in the vessels from Krka and Moravče near Sesvete, for which she proposed a dating to BA B2–C or the central Danubian phase of MD III after Hänsel (Teržan 1995, 327; ead. 1999, 132; Hänsel 1968, Map 18, App. 7).

The distribution of the pottery remains within the settlement at Podsmreka suggests several buildings that stood some 8 to 10 metres apart (Fig. 2), a distance that is a broad estimate as the site had been damaged by construction work in several places. In comparison with other sites of the same time frame, Podsmreka is among the rare ones that revealed no postholes, which could signify a different construction method. The excavation area was quite large, but did not identify the edge of the settlement, hence it is impossible to say whether it had some sort of a fortification (as at Oloris, for example, where the settlement was found to have been enclosed within a palisade and a defensive ditch) or was an open type settlement, without defensive structures.

A particular feature of the settlement at Podsmreka is the five urn burials irregularly distributed in the southeast part of the excavation area. The remains in four of them, which contained cremated remains among the ashes, were subjected to an anthropological analysis (Leben Seljak 2013, 320–321). Graves 1 and 2 held young children (2–4 years old), Grave 3 a slightly older child (4–6 years old) and Grave 5 a juvenile individual of unidentifiable sex, possibly a young woman (15–30 years old). The burials probably do not represent a cemetery, but rather reflect the custom of burying children or young individuals within settlements.

These burials are also the earliest urn graves in Slovenia, alongside those from Ptuj (Potrčeva cesta) and one from Kamnik, that are associated with the Virovitica group. They are linked to the grave from Ptuj by way of an L 3/1 jar and a pedestal cup (SKO 1), though the said pottery from Podsmreka does appear to be more archaic and shows more similarities with the graves from Moravče near Sesvete. The graves of the Virovitica group typically have a predominance of pottery among the grave goods, whereas metal objects are rare and weapons and tools all but absent. The exception in this respect is the burial from Kamnik, which held an urn and a pedestal dish, as well as a spherical-headed pin, which makes it one of the last graves of the group (Gabrovec 1985, Fig. 1). The number of known cemeteries and graves from this time in Slovenia is low, though

this most likely reflects the state of investigations; the archaeological excavations in advance of the motorway cross construction in Slovenia have revealed a fair number of contemporary settlements, but not the associated cemeteries. The new pottery analysis based on parallels and radiocarbon dates has attributed the burials at Podsmreka to BA B2/C (Škvor Jernejčič 2020, 15–24).

The settlement at Podsmreka also stands out for its gathering and processing activities, evidence of which are the accumulations of red mudstone and yellow siltstone that are not naturally occurring here. The processing most likely involved grinding the mineral raw material to produce pigments. We might imagine it was included in the trading network not only among the nearby settlements, but also with more distant regions. In this period, trading most likely involved exchanging goods and raw materials, with products of copper and bronze being of particular significance, such as tools, jewellery and weapons, but also less apparent commodities such as pigments for dyeing textile. The pigments such as those produced at Podsmreka were used to dye textile in vibrant red and yellow colours, possibly also to dye leather, wood or house daub. With regards to pigments, we should also mention red ochre, which was used in the funerary ritual; in the Bezdanjača cave, for example, pieces of it are associated with several burials (Drechsler-Bižić, 1979–1980, 251).

Chronologically, the Bronze Age settlement at Podsmreka is contemporary with the Virovitica group in Croatia. Ksenija Vinski-Gasparini identified this group and attributed it, within her chronological system, to Phase I of the Urnfield culture with a strong tradition of the Tumulus culture in the central Danube Basin. She saw the core of the group in the area between the Rivers Sava and Drava, reaching in the west to the Kalnik Mountains and the River Krapina, in the south across the Sava to northern Bosnia, in the east to the confluence of the Rivers Drava and Danube. She dated the group to the transition from the Middle to the Late Bronze Age (BA C/D), which is the late 14th and early 13th century BC in terms of the central European chronology (Vinski-Gasparini, 1973; 1983, 552). As for the end of the group, she saw clear evidence of it in the arrival of the Baierdorf Velatice group towards the end of BA D (around 1230 BC) or in the numerous appearance of hoards that she marked as Phase II of the Urnfield culture (Vinski-Gasparini 1973, 65; ead., 1983, 557).

	PIT Concentration 9/ Sect. 1	PIT Concentration 8/ Sect. 2	POSTHOLE Patch 1	PIT Concentration 10/ Sect. 1
Conventional radiocarbon age	3080 ± 40 BP	3040 ± 40 BP	3020 ± 40 BP	2990 ± 40 BP
2 Sigma calibration (95% probability)	1420–1260 BC	1400–1190 BC	1390–1130 BC	1380–1100 BC
1 Sigma calibrated results (68% probability)	1400–1300 BC	1380–1260 BC	1320–1210 BC	1290–1140 BC
Intercept of radiocarbon age with calibration curve	1380 (3330 BP)	1300 (3250 BP)	1280 (3230 BP)	1250 (3200 BP)

Fig. 17: Podsmreka 2. Radiocarbon dates.

Sl. 17: Podsmreka 2. Radiokarbonske datacije.

The duration of this group, but particularly its beginnings, have been the subject of many discussions. Janez Dular, for example, dated it from the late BA C do Ha A1. Using the pottery typology for Oloris and Rabelčja vas, he proposed a division of the Virovitica group into early (BA C–D) and late phases (BA D–Ha A1; Dular, Šavel, Tecco Hvala 2002, 205–206; Dular 2011, 130). He believed that the dating to BA B2–C, as Biba Teržan proposed on the basis of a nail-headed pin from Oloris that is characteristic of the Middle Bronze Age (Teržan 1995, 327), was too early as examples of such pins also came to light in later contexts (Dular 1999, 96).

Comparing the sites that yielded vessels decorated with incised triangles, groove-encircled knobs, T- and P-shaped rims, Biba Teržan argued that the beginnings of the settlement at Oloris date as early as BA B2/C1 and that the settlement was influenced by the central European Tumulus culture (Teržan 1999, 2010).

The publication on the radiocarbon dates from Slovenia obtained at the many sites excavated in advance of the motorway cross construction in Slovenia shed new light on the subject. The cultural phenomenon that succeeded the Tumulus culture, and known in Croatia as the Virovitica group, also reached into eastern and central Slovenia, where it has been identified as the Oloris-Podsmreka horizon. The pottery recovered at the sites of this horizon revealed common forms and decoration (Teržan, Črešnar 2014, 683–685). The horizon has a fairly broad span, with the beginnings reaching to the second half of the 16th and its decline to the late 13th or first half of the 12th centuries BC.

New observations on this matter can also be found in the study by Brina Škvor Jernejčič (2020) on the cremation and inhumation burials from Slovenia that date from the Middle to the early

part of the Late Bronze Age. Among others, she proposed that the Oloris-Podsmreka horizon be divided into the early (late 16th and the 15th century BC or BA B1–C1), middle (14th century BC or BA C2) and late phases (13th century BC or BA D). With regards to the cremations from Podsmreka and inhumations from Krška jama, she used parallels and radiocarbon dates to attribute them to BA B2/C, i.e. the middle phase of the Oloris-Podsmreka horizon.

The evidence of the Podsmreka settlement being inhabited in the Middle and the transition to the Late Bronze Age includes four radiocarbon dates of charcoal samples from different concentrations (Beta Analytic, Miami, Florida; Murgelj 2014b, 448–450).

The conventional and median dates delimit the duration of the settlement to roughly one hundred years, while the calibrated dates provide a broader span (Fig. 17): from 1420 to 1100 BC (2 Sigma) and from 1400 to 1140 BC (1 Sigma).

We can conclude that the Bronze Age settlement in Podsmreka was inhabited in BA B2/C and that it lacks later elements, such as oblique grooving and faceting on the rim and maximum diameter, sharper profiles of vessels and high handles as the characteristics of the Baierdorf Velatice group, speaking against the settlement continuing to be inhabited in BA D and Ha A1.

Translation: Andreja Maver

- BAVDEK, A., A. MIHEVC 1995, Spodmol pod Macesnovo gorico – arheološko najdišče. – *Naše jame* 37, 76–84.
- BEKIĆ, L. 2006, Blizna kod Jakopovca (Varaždin) višeslojno naselje / Blizna near Jakopovec (Varaždin) Multi-layer settlement. – *Zaštitna arheologija u okolici Varaždina, Arheološka istraživanja na autocesti Zagreb-Goričan / Rescue Archaeology in the Varaždin environs Archaeological Research on the Zagreb Goričan Highway and its Access Roads*, 91–176, Zagreb.
- BELIĆ, B. 1966, Grabovica, Doboj – nekropola bronзаног doba. – *Arheološki pregled* 8, 33–36.
- BENKOVSKY-PIVOVAROVÁ, Z. 1982–1985, Das Bronzeinventar des mittelbronzezeitlichen Gräberfeldes von Pitten, Niederösterreich. – *Mitteilungen der Prähistorischen Kommission* 21–22, 23–126.
- BRESSAN, F. 1988–1989, Le valli del Natisone e la Kovačeva jama di Robič (Nadiške doline in Kovačeva jama pri Robiču). – *Arheološki vestnik* 39–40, 519–527.
- ČOVIĆ, B. 1958, Barice – nekropola kasnog bronзаног doba kod Gračanice. – *Glasnik Zemaljskog muzeja* n. s. 13, 77–95.
- ČOVIĆ, B. 1983, Sjeverna Bosna i Karpatski bazen u rano i srednje bronзано doba. – Arheološka problematika zapadne Bosne, Arheološko društvo Bosne i Hercegovine. *Zbornik* 1, 65–71, Sarajevo.
- DRECHSLER-BIŽIĆ, R. 1979–1980, Nekropola brončanог doba u pećini Bezdanjači kod Vrhovina (Das bronzezeitliche Gräberfeld in der Höhle Bezdanjača bei Vrhovine). – *Vjesnik arheološkog muzeja u Zagrebu* 12–13, 27–78.
- DRECHSLER-BIŽIĆ, R. 1987, Istraživanje “Jozgine pećine” u Trnovcu Ličkom (Problematika veza Like s istočnom i zapadnom obalom Jadrana). – *Arheološki Radovi i Rasprave* 10, 53–71.
- DULAR, J. 1999, Starejša, srednja in mlajša bronasta doba v Sloveniji – stanje raziskav in problemi / Ältere, mittlere und jüngere Bronzezeit in Slowenien – Forschungsstand und Probleme. – *Arheološki vestnik* 50, 81–96.
- DULAR, J. 2011, Zur Datierung der bronzezeitlichen Siedlung Oloris bei Dolnji Lakoš (O dataciji bronastodobnega naselja Oloris pri Dolnjem Lakošu). – *Arheološki vestnik* 62, 111–130.
- DULAR, J., I. ŠAVEL, S. TECCO HVALA 2002, *Bronastodobno naselje Oloris pri Dolnjem Lakošu / Bronzezeitliche Siedlung Oloris bei Dolnji Lakoš*. – Opera Instituti Archaeologici Sloveniae 5. Doi: <https://doi.org/10.3986/9789612544980>
- DULAR et al. 1991 = J. Dular, B. Križ, D. Svolfjšak, S. Tecco Hvala 1991, Utrjena prazgodovinska naselja v Mirenski in Temeniški dolini / Befestigte prähistorische Siedlungen in der Mirenska dolina und der Temeniška dolina. – *Arheološki vestnik* 42, 65–198.
- DULAR et al. 1995 = J. Dular, B. Križ, D. Svolfjšak, S. Tecco Hvala 1995, Prazgodovinska višinska naselja v Suhi Krajini (Vorgeschiechliche Höhensiedlungen in der Suha krajina). – *Arheološki vestnik* 46, 89.
- DUŠEK, M. 1980, Pohrebisko l'udu sredodunajskej mohulovej kulture v Smolenicah (Gräberfeld der Träger der mitteldonauländischen Hügelgräberkultur in Smolenice). – *Slovenská archaeológia* 28/2, 341–382.
- FURMÁNEK, V. 1977, *Pilinyer kultur*. – *Slovenská archaeológia* 25/2.
- GABROVEC, S. 1983, Jugoistočnoalpska regija. – In: A. Benac (ed.), *Praistorija jugoslavenskih zemalja 4. Bronzano doba*, 21–96, Sarajevo.
- GABROVEC, S. 1985, Mesto Kamnika v prazgodovini Slovenije. – In: *Kamnik 1229–1979. Zbornik razprav s simpozija ob 750-letnici mesta*, 5–9, Kamnik.
- GABROVEC, S. 1991, Krka. – *Varstvo spomenikov* 33, 200.
- GAMS, L. 1984, Regionalizacija nizke jugovzhodne Slovenije. – In: *Dolenjska in Bela Krajina. Prispevki za 13. zborovanje slovenskih geografov*, 7, Ljubljana.
- GASPARI, A. 2010, “APUD HORIDAS GENTIS ...”. *Začetki rimskega mesta Colonia Iulia Emona / Beginnings of the Roman Town of Colonia Iulia Emona*. – Ljubljana.
- GRAHEK, L. 2017, Iška Loka in grob iz Matene – nova odkritja o pozni bronasti dobi na Ljubljanskem barju / Iška Loka and the Grave from Matena – New Findings on the Late Bronze Age in the Ljubljana Marshes. – *Prilozi Instituta za arheologiju u Zagrebu* 34, 101–121.
- GRAHEK, L. 2020, Prazgodovinske sledi na Korinjskem hribu in pri Malem Korinju / Prehistoric traces at Korinjski hrib and near Mali Korinj. – In: S. Ciglenečki, Z. Modrijan, T. Milavec, *Korinjski hrib in poznoantične vojaške utrdbe v Iliriku / Korinjski hrib and late antique military forts in Illyricum*, Opera Instituti Archaeologici Sloveniae 39, 291–325. DOI: <https://doi.org/10.3986/9789610502555>
- GUŠTIN, M. 2013, Bronastodobne in druge površinske najdbe iz Bratoncev v Prekmurju (Bronze Age and other surface finds from Bratonci in the Prekmurje region, Slovenia). – *Arheološki vestnik* 64, 2013, 27–63.
- HAMPL, F., H. KERCHLER, Z. BENKOVSKY-PIVOVAROVÁ 1978–1981, Das mittelbronzezeitliche Gräberfeld von Pitten in Niederösterreich. – *Mitteilungen der Prähistorischen Kommission* 19–20.
- HÄNSEL, B. 1968, Beiträge zur Chronologie der mittleren Bronzezeit im Karpatenbecken. – *Beiträge zur ur- und frühgeschichtlichen Archäologie des Mittelmeer-Kulturraumes* 7–8.
- HÄNSEL, B., P. MEDOVIĆ 1994, Bronzezeitliche Inkrustationskeramik aus Feudvar bei Mošorin an der Theißmündung. – *Zalai Múzeum* 5, 189–199.
- HÄNSEL B., K. MIHOVIĆ, B. TERŽAN 1997, Monkodonja – utvrđeno protourbano naselje starijeg i srednjeg brončanог doba kod Rovinja u Istri / Monkodonja – a fortified protourban settlement from the older and middle bronze age near Rovinj in Istria. – *Histria Archaeologica* 28 (1999), 37–107.
- HONTI, Sz. 1993, Angaben zur Geschichte der Urnenfelder-Kultur in Südwest-Transdanubien. – In: *Actes du XII Congrès International des Sciences Préhistorique et Protohistoriques* 3, 147–155.
- HORVÁTH, L. 1994, Adatok Délnyugat-Dunántúl késő-bronzkorának történetéhez (Angaben zur Geschichte der Spätbronzezeit in SW-Transdanubien). – *Zalai Múzeum* 5, 219–221.
- HORVAT, M. 1999, *Keramika: tehnologija keramike, tipologija lončenine, keramični arhiv*. – Ljubljana.
- INNERHOFER, F. 2000, *Die mittelbronzezeitlichen Nadeln zwischen Vogesen und Karpaten. Studien zur Chronologie, Typologie und regionalen Gliederung der Hügelgräberkultur I-II*. – *Universitätsforschungen zur prähistorischen Archäologie* 71.

- JANKOVITS, K. 1992, Spätbronzezeitliche Hügelgräber in der Bakony-Gegend. – *Acta Archaeologica Academiae Scientiarum Hungaricae* 44, 3–82.
- JERIN, B. 2008, Mrzlo Polje, Sektor D. – In: D. Svoljšak, *Mrzlo Polje pri Ivančni Gorici*, Arheologija na avtocestah Slovenije 5, 60–65. [https://www.zvkds.si/files/uploads/files/publication/005_mrzlo_polje_pri_ivancni_gorici.pdf].
- JEVREMOV, B. 1988–1989, Grobovi z začetka kulture žarnih grobišč iz Ptuja (Gräber vom Anfang der Urnenfelderkultur aus Ptuj). – *Arheološki vestnik* 39–40, 171–181.
- KALAFATIĆ, H. 2009, Zaštitna istraživanja lokaliteta Čepinski Martinci–Dubrava na trasi autoceste Beli Manastir–Osijek–Svilaj 2007. i 2008. g. / Rescue Excavations of the Čepinski Martinci–Dubrava site on the Beli Manastir–Osijek–Svilaj Motorway Route in 2007 and 2008. – *Annales Instituti Archaeologici* 5/1, 20–26.
- KALAFATIĆ, H., S. KOVAČEVIĆ, A. VEKIĆ 2009, Grob kasnoga brončanog doba iz Zbelave kod Varaždina. – *Opuscula archaeologica* 33, 29–50.
- KALICZ, N. 1968, *Die Frühbronzezeit in Nordost-Ungarn*. – *Archaeologia Hungarica* 45.
- KARAVANIĆ, S., M. MIHALJEVIĆ, H. KALAFATIĆ 2002, Naselje Mačkovac–Crišnjevi kao prilog poznavanju početka kulture polja sa žarama u slavonskoj Posavini (The Mačkovac–Crišnjevi Settlement as a Contribution to Identifying the Beginning of Urnfield Culture in Slavonian Posavina). – *Prilozi Instituta za arheologiju u Zagrebu* 19, 47–62.
- KARAVANIĆ, S., M. MIHALJEVIĆ, H. KALAFATIĆ 2003, Istraživanja brončanodobnog naselja Mačkovac–Crišnjevi. – *Obavijesti Hrvatskog arheološkog društva* 30/1, 55–61.
- KAVUR, B. 2012, Sodolek – još jedno nalazište s prijelaza srednjeg u kasno brončano doba / Sodolek – just another site from the Middle/Late Bronze Age boundary. – *Prilozi Instituta za arheologiju u Zagrebu* 29, 71–88.
- KNAVS M., M. MLINAR 2005, Bronastodobna lončenina iz Turjeve jame v dolini Nadiže (Bronze Age pottery from Turjeva jama in the Nadiža Valley). – *Arheološki vestnik* 56, 59–72.
- KOVÁCS, T. 1977, Funde der Metallkunst der Koszider-periode aus Siedlungen und Gräberfeldern. – *Folia archaeologica* 28, 39–64.
- KUDELIĆ, A. 2011, Keramički nalazi iz brončanodobnog naselja s lokaliteta Ivanovci Gorjanski – Palanka. – *Vjesnik arheološkog muzeja u Zagrebu* 3, 17–43.
- KUDELIĆ, A. 2016, Kurilovec – Belinščica – brončanodobno naselje u Turopolju / Kurilovec – Belinščica – a Bronze Age Settlement in the Turopolje Region. – *Prilozi Instituta za arheologiju u Zagrebu* 33, 5–52.
- KULENOVIĆ, I. 2004, Arheološka istraživanja na naselju Cerine VII kod Koprivnice. – *Podravski zbornik* 2004, 315–328.
- KULENOVIĆ, I. 2016, Kasnobrončanodobno naselje Podgajac – Glogovica kod Slavonskog Broda / A Late Bronze Age Settlement Podgajac – Glogovica near Slavonki Brod. – *Prilozi Instituta za arheologiju u Zagrebu* 33, 53–87.
- KULENOVIĆ, I. 2018, Velimirovac – Arenda – naselje kasnog brončanog doba i problematika naseobinskih obrazaca u dravskoj nizini / Velimirovac – Arenda – A Late Bronze Age Settlement and the problem of the Settlement pattern on the Drava plain. – *Podravina* 17/33, 5–20.
- LEBEN SELJAK, P. 2013, Antropološka analiza žganih grobov. – In: I. Murgelj, *Podsmreka pri Višnji Gori*, Arheologija na avtocestah Slovenije 42, 320–321. [https://www.zvkds.si/files/uploads/files/publication/42_podsmreka_pri_visnji_gori.pdf].
- LEGHISSA, E. 2011, Bronastodobna naselbina Medvode – Svetje. – Master thesis, Oddelek za arheologiju, Filozofska fakulteta Univerze v Ljubljani (unpublished).
- LOŽNJAK, D. 2003, Grobovi virovitičke grupe iz Vočina, Osvrt na početnu fazu kulture polja sa žarama u sjevernoj Hrvatskoj / Gräber der Virovitica-Gruppe aus Vočin Rückblick auf den Anfang der Urnenfelderkultur im nördlichen Kroatien. – *Prilozi Instituta za arheologiju u Zagrebu* 20, 33–46.
- LOŽNJAK, D. 2005, Naseljenost Podravine u starijoj fazi kulture polja sa žarama / Die Besiedlung der Podravina in der älteren Phase der Urnenfelderkultur. – *Prilozi Instituta za arheologiju u Zagrebu* 22, 25–58.
- LOŽNJAK DIZDAR, D. 2011, Kladare. – In: M. Dizdar, D. Ložnjak Dizdar, S. Mihelič (eds.), *Starija faza kulture polje sa žarama u sjevernoj Hrvatskoj – novi izazovi / Early Urnfield Culture in Northern Croatia – New Challenges*, 96–99, Osijek.
- LOŽNJAK DIZDAR, D. 2012, Zaštitna istraživanja nalazišta AN 5 Poljana Križevačka 2 na trasi autoceste A12 Sv. Helena – GP Gola / Rescue excavations of the site AN 5 Poljana Križevačka 2 on the route of the highway A12 St. Helena – GP Gola. – *Annales Instituti Archaeologici* 8, 63–68.
- MAJNARIĆ-PANDŽIĆ, N. 1989a, Prilog poznavanju kasnog brončanog doba u sjeverozapadnoj Hrvatski. – *Arheološki radovi i rasprave* 11, 9–27.
- MAJNARIĆ-PANDŽIĆ, N. 1989b, Tri neobjavljena srednjobrončanodobna groba iz Orešca u Banatu. – *Opuscula archaeologica* 14, 43–54.
- MAJNARIĆ-PANDŽIĆ, N. 1994, Novi kasnobrončani grobovi iz Drljanovca kod Nove Rače. – *Bjelovarski zbornik* 4–5, 43–56.
- MALINAR, M. 1998, Brončanodobni lokalitet špilja Bezdanjača – novi material i interpretacija. – *Opuscula archaeologica* 22, 141–162.
- MARIJAN, B. 2003, Pretpovijesna arheološka nalazišta Dubovo–Košno i Dubovo kod Županje. – *Županijski zbornik* 11, 13–22.
- MARIJAN, B. 2010, *Crtice iz prapovijesti Slavonije (brončano doba) / Notes of Prehistory of Slavonia (Bronze Age)*. – Osijek.
- MARKOVIĆ, Z. 2003, Novi prilozi poznavanju eneolitika i brončanog doba u Koprivničkoj Podravini. – In: *Arheološka istraživanja u bjelovarsko-bilogorskoj županiji i pogrebni ritusi na teritoriju Hrvatske*, Izdanja Hrvatskog arheološkog društva 21, 41–55.
- MASARYK, R. 2013, *Dolenji Podboršt pri Trebnjem*. – Arheologija na avtocestah Slovenije 43. [https://www.zvkds.si/files/uploads/files/publication/43_dolenji_podborst_pri_trebnjem.pdf].
- MIHOVILIĆ, K. 1997, Fortifikacija gradine Gradac-Turan iznad Koromačna / The fortification of Gradac or Turan Hill-Fort above Koromačno. – In: B. Čečuk

- (ed.), *Arheološka istraživanja u Istri Izdanja Hrvatskog arheološkog društva* 18, 39–59.
- MINICHREITER, K. 1982–1983, Pregled istraživanja nekropola grupe "Gredani" u Slavoniji (Research Survey of Necropolises of "Gredani" Group in Slavonia). – *Anali Zavoda za znanstveni rad JAZU u Osijeku* 2, 7–122.
- MINICHREITER, K. 1984, Brončanodobne nekropole s paljevinskim grobovima grupe Gredani u Slavoniji (Bronzezeitliche Nekropolen mit Urnengräbern der Gruppe Gredani in Slavonien). – In: *Arheološka istraživanja u istočnoj Slavoniji i Baranji*, Izdanja Hrvatskog arheološkog društva 9, 91–106.
- MINICHREITER, K., D. SOKAC-ŠTIMAC 1998, Brončanodobni nalazi nekropole grupe Gredani-Barice u Vlatkovcu istočno od Požege (Bronze Age finds of the necropolis group Gredani-Barice in Vlatkovac south of Požega). – *Obavijesti Hrvatskog arheološkog društva* 30/1, 34.
- MÜLLNER, A. 1879, *Emona. Archaeologische Studien aus Krain*. – Laibach.
- MÜLLNER, A. 1909, *Geschichte des Eisens in Krain, Görz und Istrien*. – Wien, Leipzig.
- MURGELJ, I. 2012, Bronzastodobna enoročajna skodelica na nogi iz Podsmreke pri Višnji Gori. – In: B. Migotti, Ph. Mason, B. Nadbath, T. Mulh: *Scripta in Honorem Bojan Djurić*, Monografije CPA 1, 134–142.
- MURGELJ, I. 2013, *Podsmreka pri Višnji Gori*. – Arheologija na avtocestah Slovenije 42. [https://www.zvkds.si/files/uploads/files/publication/42_podsmreka_pri_visnji_gori.pdf].
- MURGELJ, I. 2014a, The beginning of the Virovitica cultural group in Dolenjska – The example of Podsmreka 2. – In: *The beginning of the Late Bronze Age between the Eastern Alps and the Danube, Proceedings of the International conference in Osijek, 2011*, Zbornik Instituta za arheologiju 1, 17–28.
- MURGELJ, I. 2014b, Podsmreka pri Višnji Gori / Podsmreka near Višnja Gora. – In: B. Teržan, M. Črešnar (eds.), *Absolutno datiranje bronaste in železne dobe na Slovenskem / Absolute dating of the Bronze and Iron Age in Slovenia*, Katalogi in monografije 40, 437–450.
- MURGELJ, I. 2018, Krška jama – mesto večnega počitka v srednji bronasti dobi / Krška jama – place of eternal rest in the Middle Bronze Age. – In: M. Črešnar, M. Vinazza (eds.), *Srečanja in vplivi v raziskovanju bronaste in železne dobe na Slovenskem. Zbornik prispevkov v čast Bibi Teržan*, 53–69, Ljubljana. DOI: <https://doi.org/10.4312/9789610600855>
- MURGELJ, I., D. SVOLJŠAK 2003a, Podsmreka pri Višnji Gori 2. – In: D. Prešeren (ed.), *Zemlja pod vašimi nogami. Arheologija na avtocestah Slovenije. Vodnik po najdiščih*, Zbirka Dnevi evropske kulturne dediščine, 222–223, Ljubljana.
- MURGELJ, I., D. SVOLJŠAK 2003b, Podsmreka near Višnja Gora 2. – In: D. Prešeren (ur. / ed.), *The earth beneath your feet. Archaeology on the motorways in Slovenia. Guide to sites*, The European heritage days series, 228–229, Ljubljana.
- NEUGEBAUER, J.-W. 1994, *Bronzezeit in Ostösterreich*. – St. Pölten, Wien.
- PAHIČ, S. 1985, Brinjeva gora 1954. – *Doneski k pravadnini Podravja* 2, Maribor.
- PAHIČ, S. 1981, Brinjeva gora 1953. – *Arheološki vestnik* 32, 71–139.
- PAHIČ, S. 1990, *Brinjeva gora, začasen oris njene preteklosti za ljubitelje domače zgodovine*. – Maribor.
- PATEK, E. 1968, *Die Urnenfelder Kultur in Transdanubien*. – *Archaeologia Hungarica* 44.
- PAULÍK, 1984, Čačianska mohyla v Dedinke, okres Nové Zámky (II) (Ein Hügelgrab der Čaka-kultur in Dedinke, Bez. Nove Zamky [II]). – *Zborník Slovenského národného múzea, História* 24, 27–48.
- PAVIŠIĆ, I. 1991, Prapovijesno nalazište Mali Zagreb u Špišić Bukovici – prilog poznavanju virovitičke grupe (The prehistoric Site of Mali Zagreb – a Contribution to the Knowledge of the Virovitica Group). – *Prilozi Instituta za arheologiju u Zagrebu* 22, 5–16.
- PAVIŠIĆ, I. 1992, Neki novi nalazi Virovitičke grupe iz Gačišta kod Virovitice (Einige neue Funde der Virovitica-Gruppe von Gačište bei Virovitica). – *Prilozi Instituta za arheologiju u Zagrebu* 22, 49–62.
- PAVIŠIĆ, I. 1993, Kasnobrončanodobni nalazi s područja Virovitičko-podravske županije (Spatbronzezeitliche Funde aus dem Areal des Virovitica und Draulandkomitats). – *Prilozi Instituta za arheologiju u Zagrebu* 22, 23–34.
- PEČNIK, J. 1904, Prazgodovinska najdišča na Kranjskem. – *Izvestja Muzejskega Društva za Kranjsko* 14, 27, 125, 185.
- PERKO, D., M. OROŽEN ADAMIČ 2001, *Slovenija. Pokrajina in ljudje*. – Ljubljana.
- PLESTENJAK et al 2013 = A. Plestenjak, I. Murgelj, P. Vojakovič, S. Porenta, S. Hvalec, I. Bekljanov Zidanšek 2013, Arheološke raziskave. – In: A. Plestenjak (ed.), *Ivančna Gorica Arheološke raziskave v letih 2008 in 2009*, 31–36, Ljubljana. [http://www.arhej.com/datoteke/ivančna_gorica.pdf].
- PLETERSKI, A. 1986, Male Dole pri Stehanji vasi. – *Varstvo spomenikov* 28, 244.
- PREMUŽIĆ, Z. 2016, *Antropološka perspektiva pogrebnih običaja početka kasnog brončanog doba u sjevernoj Hrvatskoj*. – PhD thesis, Sveučilište u Zagrebu, Filozofski fakultet (unpublished).
- PUŠ, I. 1988–1989, Bronzastodobna naselbina pri Žlebiču (Eine Bronzezeitliche Siedlung bei Žlebič). – *Arheološki vestnik* 39–40, 345–367.
- ŘÍHOVSKÝ, J. 1979, *Die Nadeln in Mähren und im Ostalpengebiet (von der mittleren Bronzezeit bis zur älteren Eisenzeit)*. – *Prähistorische Bronzefunde* 13/5.
- ŘÍHOVSKÝ, J. 1982, *Základy středodunajských popelnicových polí na Moravě (Grundzüge der mitteldonaulandischen Urnenfelderkultur in Mähren)*. – *Studie Archeologického Ústavu* 10, 1.
- RUTAR, S. 1899, Rimska cesta "Aquilaia-Siscia". – *Izvestja Muzejskega društva za Kranjsko* 9, 27 ss, 41 ss, 113 ss.
- SOKOL, V. 1988–1989, Grob br. 7 kulture žarnih polja iz Moravča kod Sesveta (Grab Nr. 7 Der Urnenfelderkultur in Moravče bei Sesvete). – *Arheološki vestnik* 39–40, 425–237.
- SOKOL, V. 1996, Nekropola kulture žarnih polja u Moravču kod Sesveta (Die Nekropole der Urnenfelderkultur in Moravče bei Sesvete). – In: *Arheološka istraživanja u Zagrebu i zagrebačkoj regiji i arheologija i obnova*, Izdanja Hrvatskog arheološkog društva 17, 29–38.

- STARE, F. 1964–1965, Bronasta igla iz okolice Stične (Bronzezeitliche Nadel aus Stična). – *Arheološki vestnik* 15–16, 211–214.
- STRMČNIK-GULIČ, M. 1988–1989, Bronastodobni naselitveni kompleks v Rabelčji vasi na Ptujju (Der bronzezeitliche Siedlungskomplex in Rabelčja vas auf Ptuj). – *Arheološki vestnik* 39–40, 147–170.
- STUHLÍK, S. 2001, Die Beziehungen Mährens zu den südöstlichen Gebieten am Anfang der Bronzezeit. Bronzezeitliche Kulturerscheinungen im Karpatischen Raum. Die Beziehungen zu den benachbarten Gebieten 2. – *Bibliotheca marmari* 2, 445–457.
- SVOLJŠAK, D. 1988–1989, Posočje v bronasti dobi (Das Sočagebiet in der Bronzezeit). – *Arheološki vestnik* 39–40, 367–387.
- SVOLJŠAK, D. 2000, Možjanca – novo bronastodobno najdišče v Alpah (Možjanca – new Bronze Age site in the Alps). – *Arheološki vestnik* 51, 113–117.
- SZILAS, G. 2002, Die Freilegung eines bronzezeitlichen Brunnens besonderen Typs in Dunakeszi. – *Budapest Régiségei* 36, 291–304.
- ŠIMEK, M. 2003, Grob kasnog brončanog doba iz Lepoglave. – *Opuscula archaeologica* 27, 151–156.
- ŠINKOVEC, I. 1995, Katalog posameznih kovinskih najdb bakrene in bronaste dobe / *Catalogue of Individual Metal Finds from the Eneolithic and Bronze Ages*. – In: B. Teržan (ed.), *Depojske in posamezne kovinske najdbe bakrene in bronaste dobe na Slovenskem / Hoards and Individual Metal Finds from the Eneolithic and Bronze Ages in Slovenia* 1, Katalogi in monografije 29.
- ŠKVOR JERNEJČIČ, B. 2020, The Earliest Cremation Burials in the South-Eastern Alpine Region from the Middle Bronze Age – Signs of Intercultural Connections with the Northern Carpathian Basin. – *Praehistorische Zeitschrift* 95/2, 447–490.
- TERŽAN, B. 1995, Stand und Aufgaben der Forschung zur Urnenfelderzeit in Jugoslawien. – In: *Beiträge zur Urnenfelderzeit nördlich und südlich der Alpen, Ergebnisse eines Kolloquiums Hermann Muller-Karpe gewidmet*, Römisch-Germanisches Zentralmuseum, Monographien 35, 323–372.
- TERŽAN, B. 1999, An Outline of the Urnfield Culture Period in Slovenia / Oris obdobja kulture žarnih grobišč na Slovenskem. – *Arheološki vestnik* 50, 97–143.
- TERŽAN, B. 2008, Stiške skice / Stična Skizzen. – In: S. Gabrovec, B. Teržan, *Stična II/2. Gomile starejše železne dobe. Razprave / Tumuli of the Early Iron Age. Studies*. – Katalogi in monografije 38 (2010), 189–326.
- TERŽAN, B. 2010, Diskusijski prispevek o srednji bronasti dobi v Prekmurju (Diskussionsbeitrag zur mittleren Bronzezeit im Prekmurje). – *Zbornik soboškega muzeja* 15, 151–171.
- TERŽAN, B., M. ČREŠNAR 2014, Poskus absolutnega datiranja starejše železne dobe na Slovenskem / Attempt at an absolute dating of the Early Iron Age in Slovenia. – In: B. Teržan, M. Črešnar (eds.), *Absolutno datiranje bronaste in železne dobe na Slovenskem / Absolute dating of the Bronze and Iron Age in Slovenia*, Katalogi in monografije 40, 703–724.
- TOČÍK, A. 1964, *Die Gräberfelder der Karpatenländischen Hügelgräberkultur*. – *Fontes Archaeologici Pragenses* 7.
- TOČÍK, A., J. PAULÍK, 1960, Výskum mohylý v Čake v rococh 1950–51 (Die Ausgrabung eines Grabhügels in Čaka in den Jahren 1950–51). – *Slovenská archaeológia* 8/1, 59.
- TOMAŽIČ, S., S. OLIČ 2009, *Šiman pri Gotovljah*. – *Arheologija na avtocestah Slovenije* 9, Ljubljana. [https://www.zvkds.si/files/uploads/files/publication/009_siman_pri_gotovljah.pdf].
- URBAN, T. 1993, *Studien zur mittlere Bronzezeit in Norditalien*. – *Universitätsforschungen zur prähistorischen Archäologie* 14, 1–2.
- VELUŠČEK, A. 2005, Iška Loka - bronastodobno naselje na obrobju Ljubljanskega barja / Iška Loka - a Bronze Age settlement on the edge of the Ljubljansko barje. – *Arheološki vestnik* 56, 73–89.
- VERBIČ, T. 2013, Geološke razmere na najdišču in okolici. – In: I. Murgelj, *Podsmreka pri Višnji Gori*, *Arheologija na avtocestah Slovenije* 42, 321–326. [https://www.zvkds.si/files/uploads/files/publication/42_podsmreka_pri_visnji_gori.pdf].
- VINSKI-GASPARINI, K. 1973, *Kultura polja sa žarama u sjevernoj Hrvatskoj (Die Urnenfelderkultur in Nordkroatien)*. – Monografije 1, Zadar.
- VRDOLJAK, S. 1994, Tipološka klasifikacija kasnobrončanodobne keramike iz naselja Kalnik–Igrišče (SZ Hrvatska) (Die typologische Klassifikation der spatbronzezeitlichen Keramik aus der Siedlung Kalnik–Igrišče (NW Kroatien)). – *Opuscula archaeologica* 18, 7–81.

Keramika iz bronastodobne naselbine v Podsmreki na Dolenjskem

Povzetek

Ob arheološkem nadzoru pri gradnji avtocestnega nadvoza pri Podsmreki (*sl. 1*)¹ so bili odkriti naselbinski ostanki in pet žganih grobov, ki pripadajo virovitiški skupini oziroma horizontu Oloris-Podsmreka (Murgelj, Svoltšak 2003a; Murgelj 2014a). Podobno kot ostale naselbine te skupine je tudi ta ležala na rahlo dvignjenem pobočju nad dolino potoka Višnjica, ki je zaradi majhnega padca poplavna (Gams 1984; Perko, Orožen Adamič 2001). Potok se izliva v reko Krko blizu njenega izvira v Krški jami, v neposredni bližini vasi Gradiček.

Naselbinske ostaline

Osnovna stratigrafija je bila enostavna (Murgelj 2013). Kulturna plast je ležala na geološki osnovi, v katero so bila plitvo vkopana dna shrambnih in odpadnih jam. Keramične najdbe so ležale v večjih in manjših skupkih /zgoditvah (*sl. 2*: rdeče št.), zgoditve na nekaterih mestih so nakazovale tlorise stavb velikosti približno 8 m × 10 m (*sl. 2*: stavbe 1–4). Tlorisi stavb so si sledili v vrsti, usmerjeni severozahod–jugovzhod. Znotraj njih so bile tudi večje shrambne in odpadne jame. Gre za različno velike, razmeroma plitve kotanje, globoke od 5 do 15 cm, na globini od 40 do 50 cm pod današnjo površino. Poleg kosov keramičnega posodja so bili v jamah še ostanki žrnelj in brusov, v redkih primerih koščki prežganega hišnega ometa, koščki rdečega muljevca in redki odlomki živalskih kosti. Kovinskih najdb, z izjemo dveh neopredeljivih koščkov, ni bilo, najden pa je bil odlomek kalupa za vlivanje obročkov, kar kaže na metalurško dejavnost.

Posebnost naselbine, ki je pritegnila pozornost, so bili večji in manjši kupi rdečega muljevca, rumenega meljevca in oblic boksita oziroma oolitne

boksitne železove rude, ki kažejo na to, da so surovino pobirali in zbirali ter skladiščili na tem mestu (*sl. 2*). Ostanki rdečega muljevca so se ohranili tudi na eni izmed terilnih plošč (*sl. 3*), ki so bile poleg kamnitih tolkačev dokaj pogosto orodje v tej naselbini in kažejo, da so vsaj nekatere med njimi uporabljali za mletje oziroma trenje muljevca in meljevca. Okrogli tolkači, ploski na zgornji in spodnji strani, so bili narejeni iz različnih kamnin. Odkriti so bili v jamah, skupaj z ostanki keramičnih posod.

Podoben okrogel tolkač je bil odkrit na ognjišču ob grobu 4 v jami Bezdanjači v Liki (Drechsler-Bižič 1979–1980, t. 9: 2). Na tolkaču in v posodi s tega ognjišča so bili ostanki rdeče okre, koščki te so bili položeni tudi v druge grobove. V tej jami odkriti skeleti so bili skrbno položeni na izbrana mesta s pridatki, razporejenimi okoli njih. Najverjetneje so rdečo okro uporabljali prav pri obredu pokopa. Z zmleto in razmočeno okro so dobili rdečo barvo, ki so jo verjetno uporabili za barvanje delov ali celega telesa preminulega. Verjetno je rdeča barva kot simbol večnega življenja označevala prehod v posmrtno življenje.

Ali gre pri podsmreškem rdečem muljevcu za rdečo okro, ne moremo trditi z gotovostjo, ker ne poznamo sestave ostalih oker, ki se v zvezi z grobnim ritualom pojavljajo že vse od paleolitika. Verjetno sta obe kamnini služili za pridelavo barvila, ki so ga tedanji prebivalci bodisi uporabljali sami bodisi so z njim trgovali.

Grobovi

V jugovzhodnem delu izkopane naselbine je bilo na razmeroma majhnem prostoru odkritih pet grobov v maniri, značilni za virovitiško skupino (*t. 1–4*). Grobovi so ležali na območju naselbine, kjer so bile odkrite najdbe iz bronaste in starejše železne dobe (*sl. 2*). Gre za preprosto vkopane jame, v katere je bila postavljena žara, napolnjena s pepelom in ostanki žganih kosti pokojnika, pokrita s črepinjo ali celo skledo, z dnom, obrnjenim navzgor (*sl. 4*). V grobovih 1 in 5 smo opazili, da so bile kosti pokojnih položene tik pod vrhom

¹ Izkopavanja so potekala pod vodstvom Draga Svoltšaka iz Narodnega muzeja Slovenije. Obdelavo najdb je prevzela podpisana v okviru svojega magistrskega dela, ki ga je pod naslovom *Srednja bronasta doba na Dolenjskem – primer Podsmreka* in pod mentorstvom akad. prof. dr. Bibe Teržan zagovarjala na Filozofski fakulteti Univerze v Ljubljani leta 2008. Leta 2013 je bilo v elektronski obliki izčrpno objavljeno v zbirki *Arheologija na avtocestah Slovenije* 42 (Murgelj 2013).

žare.² Tak ritual je značilen za virovitiško skupino (Ložnjak Dizdar 2011), ki je segala tudi v ta del Slovenije. Zaradi keramike, razpršene okoli grobov, je verjetno, da je dno pokrovne sklede ležalo tik pod nekdanjo hodno površino, kar nas napeljuje k misli, da so bili grobovi označeni z zemljenim nasutjem ali manjšo gomilo.

V antropološko analizo so bili vključeni štirje grobovi, v katerih so se med pepelom ohranili ostanki zgorelih koščic (Leben Seljak 2013, 320–321). V grobovih 1 in 2 sta bila pokopana mlajša otroka (2 do 4 leta), v grobu 3 nekoliko starejši otrok (4 do 6 let), v grobu 5 pa juvenilna oseba nedoločljivega spola, verjetno mlada ženska (15 do 30 let). Verjetno v podsmreškem primeru sploh ne gre za posebno grobišče, ampak navado pokopavanja otrok oziroma mladih oseb znotraj naselbine.

Na območju severne Hrvaške je iz starejše kulture žarnih grobišč (KŽG) znanih kar nekaj nekropol, pripisanih virovitiški skupini (Premužič 2016, 19), vendar postaja šele v zadnjem času bolj jasen odnos naselbin in pripadajočih grobišč v neposredni bližini, npr. na najdiščih Popernjak, Jakopovec, Mačkovec (Marijan 2010), Čepinski Martinci (Kalafatić 2009) in Poljana Križevačka 2 (Ložnjak Dizdar 2012). V nobenem od omenjenih primerov grobovi niso bili odkriti v naselbini, kot je primer v Podsmreki.

Primerjava grobov iz Podsmreke s tistimi iz virovitiške skupine je pokazala, da jim je skupna preprosta grobna jama, običajno lijakaste oblike in samo malo večja od žare. Opazimo lahko razlike v načinu polaganja žare in pridatkov v grobove. V Virovitici so v jamo najprej položili obredno razbite posode, nanje so postavili žaro, okoli nje so nato položili dele razbitih posod. V večini primerov je bila na žaro z ostanki pokojnika poveznjena skleda z navzgor obrnjenim dnom. Na žaro in pridatke je bil najprej nametan pepel z grmade, nato je bila grobna jama zasuta z zemljo (Vinski-Gasparini 1973, 37). Podobno situacijo razkrivajo grobovi v Voćinu (Ložnjak 2003) in Gačiću pri Suhopolju (Pavišić 1992). Na grobišču v Drljanovcu, kjer se kaže kontinuiteta pokopov od najstarejše virovitiške faze do II. faze kulture žarnih grobišč oziroma skupine Zagreb, so v načinu pokopavanja opazne

razlike. V tamkajšnjih grobovih 7 in 9 so bile kosti skrbno očiščene, najverjetneje oprane in zložene v žaro, ni pa povsem jasno, kako so bile priložne ostale posode. Grob 7 je zaradi podobnosti z grobovoma 5 in 6 pripisan I. fazi kulture žarnih grobišč oziroma virovitiški skupini (Majnarić-Pandžić 1988a, 15). Oprane in zdrobljene kosti brez pepela so bile položene tudi v žaro v grobu 7 v Moravčah pri Sesvetah, kjer je med posameznimi grobovi prav tako opazna razlika v obredju. Med bolj zanimivimi s tega grobišča je grob 3, kjer je pepel z ostanki kosti položen v jamo in pokrit s polovico sklede. Tak način pokopa spominja na ritual, značilen za skupino Barice-Gređani v severni Bosni in južni Slavoniji. Vsi grobovi z grobišča v Moravčah so pripisani I. fazi kulture žarnih grobišč in ne kažejo mlajših elementov (Sokol 1988–1989; 1996, 33). Iz tega časa je tudi naključno odkrit grob v Lepoglavi (Šimek 2003), v katerem je bila žara pokrita s polovico sklede, drugih lončenih črepinj ni bilo. V Poljani Križevački je bilo pri 11 žarah ugotovljeno, da ostanki žganih kosti, položeni na dno žare, niso presegali polovice prostornine žare (Premužič 2016, 86–87). Tudi trije grobovi s Potrčeve ceste na Ptuj, ki sodijo v isti čas kot navedeni grobovi iz Hrvaške, kažejo vsak svoje posebnosti. V prvi grob sta bila položena žara in lonec, v drugem je bila žara in ob njej skodelica na nogi ter več fragmentov keramike. Tretji grob je bil na vrhu obložen z oblicami, v grobni jami pa je bil vrč, pokrit s fragmentom keramike in poveznjeno skodelico na nogi. Vsi trije grobovi so bili zasuti z mivko, pomešano s pepelom in žganino (Jevremov 1988–1989, 171, sl. 1).

Keramične najdbe

Od 25.000 kosov keramike je bil način izdelave analiziran pri 998 izbranih in narisanih kosih (Murgelj 2013). Iz analize je razvidno, da največji delež pripada fino zrnati lončarski glini, ki je večinsko zastopana pri vseh tipih posodja (*sl. 5–11*), razen pri pitosih (*sl. 12*), kjer prevladuje drobnozrnata lončarska glina. Večina posod je bila žgana redukcijsko in oksidacijsko v končni fazi. Površine tako žganih posod so svetlejših barv kot jedro, prevladujejo pa odtenki svetlo rjave, rdečerjave do temno rjave barve.

Tipološka in kronološka opredelitev najdb načini okraševanja (*sl. 13*) so podrobneje predstavljeni v monografski publikaciji (Murgelj 2013). Primerjava števila primerkov posameznih tipov

² Grobovi so bili zaradi slabega stanja posod izkopani v bloku zemlje in odpeljani v konservacijo v nadaljnjo obdelavo. Ker pa je bil postopek konservacije izpeljan brez strokovnega posveta z arheologom, so žal podatki o tem, kako so bili v žaro položeni kostni ostanki, izgubljeni.

posod v zgoščitvah domnevnih stavb in grobovih ter medsebojna kombinacija tipov posod pa sta razvidni iz kombinacijskih tabel (*pril. 1; 2*).

Tipi keramike v Podsmreki kažejo srednjebronastodobni izvor. Sklede so vse (razen tipa S 1) široke (*sl. 5*), kar je značilnost keramike srednje bronaste dobe. Najzgodnejša je oblika skled tipa S 5, ki se na spodnjeavstrijskem grobišču v Pittnu pojavi že v zgodnji srednji bronasti dobi (Bd B1). Nekoliko mlajše, morda Bd C, so konične sklede S 2 z analogijami na slovaškem grobišču Salka I. Ostali tipi skled imajo primerjave na slovenskih in hrvaških najdiščih (v naselbinah, grobiščih, jamah), ki so po večini datirana v I. stopnjo KŽG oziroma virovitiško skupino (Bd C in delno D), a morda trajajo vse do stopnje Ha A1.

Med skodelami (*sl. 6*) je najstarejši tip SK 3 z analogijami v Pittnu (Bd B1). Zanimive so vodoravno fasetirane skodele SK 2, ki se na območju Padske nižine in njenega neposrednega sosilstva pojavljajo že v srednji bronasti dobi. Bližnje primerjave najdemo v Avstriji, na Madžarskem, Hrvaškem in v Sloveniji, kjer se pojavljajo proti koncu srednje bronaste dobe in na prehodu v pozno bronasto dobo (Bd C/D). Najdemo jih tudi v mlajših kontekstih, do stopnje Ha A1.

Med lonci (*sl. 10; 11*) se stara oblika kaže pri tipu L 5, ki ima poudarjen kaneliran prehod na ramenu; na madžarskih najdiščih se pojavlja od zgodnje srednje bronaste dobe (Bd B1). Stara oblika se z analogijami od srednje bronaste dobe kaže tudi pri loncih tipa L 7 in L 9. Vsi ostali tipi loncev so datirani v čas od pozne srednje bronaste dobe oz. prehoda v pozno bronasto dobo (Bd C/D) do Ha A1.

Pitosi P 1 in P 3 (*sl. 12*) so starih oblik, z izvorom v srednji bronasti dobi. Še posebej izrazit je trebušast pitos P 1 z ozkim vratom, poudarjenim kaneliranim prehodom na ramenu in štirimi trakastimi ročaji na največjem obodu. S svojo značilno obliko so prisotni še v času I. faze kulture žarnih grobišč (Bd C/D), nato pa jih zamenjajo drugačne oblike posod.

Okras (*sl. 13*) je v Podsmreki, podobno kot v Olorisu pri Dolnjem Lakošu, dokaj pester. Največji delež pripada rebrom (okrašenim in gladkim), ki so različno nalepljena na posodo (vodoravno, poševno, navpično in v različnih kombinacijah) (*sl. 13: O1–O16*). Med drugim okrasjem pa jih kar nekaj kaže manire, značilne za srednjo bronasto dobo. Na prvem mestu so bradavice, obdane s kaneluro, ta je najpogosteje ozka. Redkejši so primeri s široko kaneluro ali s kaneluro, ki jo obkroža drobno rebro

(*sl. 13: O20–O23*). Tak način krašenja je pogost v srednji bronasti dobi na območju Madžarske, Slovaške, Moravske, Avstrije, manj pa v Sloveniji; najdemo ga tudi v Istri in Padski nižini. V Sloveniji in na severnem Hrvaškem so tako okrašene posode pogosto prisotne na najdiščih, pripisanih času Bd C/D.

Staro je tudi krašenje z bradavicami, obdanimi s polkrožnimi, navzdol obrnjenimi kanelurami (*sl. 13: O25*). Sledimo jim lahko od srednje bronaste dobe v Avstriji, na Madžarskem in Slovaškem, najdemo jih celo v Padski nižini. Nekoliko mlajše so najdbe z moravskih najdišč, datirane so v stopnjo Blučina-Kopčany, to je na prehod srednje v pozno bronasto dobo (Bd C/D).

Okras sončnega koluta oziroma bradavica, obkrožena z vrezanimi koncentričnimi krogi (*sl. 13: O24*), se pojavi že med inkrustirano keramiko v Feudvarju v zgodnji bronasti dobi (Bd A2). V srednji bronasti dobi so tako okrašene posode na Madžarskem, v Istri in v Padski nižini. Nekoliko mlajši, iz prehoda srednje v pozno bronasto dobo, so primeri z moravskih najdišč in Bezdanjače v Liki, najmlajši pa z grobišča tipa Barice-Gredani v Grabovici pri Doboju v Bosni in Hercegovini (Belić 1966), kjer so datirani v Bd D/Ha A1.

Star način krašenja predstavljajo še drobne bradavice, gosto razporejene po stenah posode (*sl. 13: O19*). Najdemo jih že v zgodnji bronasti dobi (Bd A2) na območju kulture Hatvan, kjer predstavljajo enega od značilnih načinov okraševanja posod. V tem času so na enak način krasili posode tudi na moravskih najdiščih, v srednji bronasti dobi pa tudi v severni Italiji. Na Madžarskem jih najdemo še proti koncu kulture grobnih gomil (konec Bd C), na severnem Hrvaškem pa med naselbinskim gradivom, datiranim v čas Bd C/Ha A1.

V srednjebronastodobni maniri je bila okrašena tudi velika posoda z vrezanimi šrafiranimi trikotniki (*sl. 13: O35*). Tako okrašene posode najdemo v srednji bronasti dobi (Bd B1) na Madžarskem, kjer jim lahko sledimo do prehoda srednje v pozno bronasto dobo. V avstrijskem Pittnu so posode s takim okrasom datirane v čas od Bd B1 do Ha B. Na Podsmreki najbližjih najdiščih v Olorisu pri Dolnjem Lakošu in Šimanu pri Gotovljah pa so na podlagi analogij datirane v srednjo ali na prehod srednje v pozno bronasto dobo.

Med stare načine krašenja prav tako spadajo sklede in skodele, ki imajo ustje modelirano v rogljičaste izrastke (*sl. 13: O29*). V srednji bronasti dobi (Bd B1–C) jih najdemo na Madžarskem, v ta čas so opredeljene tudi najdbe iz Smolenic

na Slovaškem. V Avstriji in na Moravskem so tako okrašene posode znane z najdišč iz prehoda srednje v pozno bronasto dobo (Bd C/D). Med mlajše sodijo primeri iz horizonta Čaka (Bd D) na Slovaškem. V Sloveniji in na severnem Hrvaškem jih najdemo tako med naselbinskim kot grobnim gradivom, pripisanim Bd C/D.

Analiza oblik posodja in načina krašenja nam je pokazala močne srednjebronastodobne elemente, ki so še posebej izraziti pri okrasu. V Podsmreko so vplivi ali celo importi morda prihajali iz Podonavja in medrečja Save in Drave na Hrvaškem, pri čemer ne moremo spregledati vezi z virovitiško skupino. A se te vezi zdijo šibkejšje kot z grobiščem v Moravčah pri Sesvetah, ki prav tako v oblikah, še bolj pa v okrasju kaže starejše elemente. Analiza je prav tako pokazala, da oblike in okras ne kažejo značilnosti mlajšega obdobja (prehod Bd D/Ha A1), za katere so značilni poševno fasetiranje in kaneliranje, ostri profili posod in presegajoči ročaji. Na podlagi teh značilnosti lahko rečemo, da je naselbina v Podsmreki živela v srednji bronasti dobi (Bd B2/C), nekje na začetku pozne bronaste dobe (Bd D) pa je življenje v njej zamrlo.

Mesto Podsmreke v okviru dolenjskih najdišč srednje bronaste dobe

Dolenjska je na začetku srednje bronaste dobe (Bd B1), podobno kot ostala osrednja in vzhodna Slovenija, pripadala srednjebronastodobni kulturi grobnih gomil, za kar govori le nekaj posameznih najdb. Najverjetneje iz gomile izvirata igla s preluknjanim odebeljenim vratom iz okolice Stične, ki je bila najdena v nejasnih okoliščinah (Stare 1964–1965, 211, t. 1: 1; Svoljšak 2000, 115, t. 3: 4; Teržan 2008, 273, sl. 38), ter igla s stožčasto glavico in preluknjanim odebeljenim vratom iz Dobrave pri Dobrniču (Stare 1964–1965, 211, t. 1: 2; Šinkovec 1995, 119, t. 36: 253; Svoljšak 2000, sl. 3: 3). Poselitev v srednji bronasti dobi, ob njenem koncu in na prehodu v pozno bronasto dobo ni povsem jasna. Na nekaterih višinskih naselbinah na Dolenjskem so bili odkriti posamezni kosi keramike, ki bi jih zaradi oblike ali okrasa lahko obravnavali tudi kot srednjebronastodobne (Dular et al. 1995).

Na *Korinjskem hribu nad Velikim Korinjem*³ (sl. 14) so bile med najstarejšim gradivom, pripri-

sanim bronasti dobi, značilne črepinje, okrašene z bradavicami s kaneluro, ter tunelasti in trakasti ročaji, odlomki posod z rebri z odtisi ali brez njih in skodelica z nalepljenimi bradavicami. Poleg keramike je bilo odkritih tudi nekaj kovinskih predmetov, med katerimi so datacijsko pomembni igla s sploščeno kroglasto glavico in dva bronasta srpa (Dular et al. 1995, t. 2: 3,5,7–16; 3: 3,5–7). Obe vrsti bronastih predmetov sta pogosti v depojih II. stopnje v severozahodni Hrvaški, ki so datirani v stopnjo Ha A1 po srednjeevropski kronologiji (Vinski-Gasparini 1973). Obljudenost Velikega Korinja v začetku srednje bronaste dobe (Bd B1) izpričuje tudi najdba fragmenta igle tipa Wetzleinsdorf (Grahek 2020, 293, t. 13.2: 16), številne keramične najdbe pa lahko primerjamo s tistimi z najdišč horizonta Oloris-Podsmreka, datiranimi od Bd B2/C1 do Ha A1 (Grahek 2020, 294). S podsmreškimi oblikami jih družijo šest tipov loncev (L 2, L 3/1, L 3/2, L 8, L 9, L 11, L 12), dva tipa skled (S 1, S 5) in skodela (SK 8), od okrasa pa s kaneluro obdane bradavice (Grahek 2020, t. 13.8: 3,7,8; 13.7: 2; 13.9: 1–2,5; 13.10: 4; 13.6: 12–13; 13.5: 10–11; 13.4: 1).

Na *Makovcu nad Zagorico pri Dobrniču*⁴ (sl. 14) so med keramičnim gradivom za nas zanimive nekatere oblike posod ter črepinje z rebri in jezičastimi držaji, okrašenimi z odtisi ali drobnimi vrezi, trakasti ročaji in velike ploščate žrmlje (Dular et al. 1995, t. 6: 1–8,12–13; 5: 5–8; 8: 1–8; sl. 16).

Na *Sveti Ani nad Vrhpečjo*⁵ (sl. 14) prvi znaki poselitve kažejo na bakreno dobo. Naslednja plast je vsebovala neznatne koščke keramike, še naslednja je pripisana pozni bronasti dobi. Značilni črepinji predstavljata fragmenta ustja z ostenjem, ki sta podobna podsmreškim loncem tipa L 4 (sl. 9), zanimivi pa so tudi fragmenti treh skodel, ki so bili najdeni v vrhnji humusni plasti (Dular et al. 1991, 80, t. 7: 10,11; 9: 1–3).

*Gradišče pri Trebnjem*⁶ (sl. 14) je zanimivo zaradi nekaterih oblik posodja, ki niso pogoste na drugih dolenjskih gradiščih. Izstopajo lonci oziroma pitosi z ustji, fasetiranimi na notranji strani, ter nekatere oblike skodel in jezičasti držaji (Dular et al. 1991, 82, t. 11: 1–13; 14: 1–12; 17: 1–11; 18: 1–5; 20: 4).

⁴ Naselje je prvi omenil leta 1899 Simon Rutar, vendar je bilo sondirano šele leta 1990.

⁵ Naselbino je prvič omenil Alfonz Müllner (Müllner 1879, 98), z eno sondo, ki je pokazala štiri poselitvene faze, raziskana pa je bila šele v novejšem času (Dular et al. 1991, 66).

⁶ Naselbina je bila odkrita z rekognosciranjem leta 1987 (Dular et al. 1991, 81).

³ Naselje je odkril že Jernej Pečnik (1904) in na njem ugotovil ostaline iz prazgodovine in rimskega obdobja.

Ob višinskih naselbinah se sledovi poselitve kažejo tudi v nižinah, blizu rek oziroma potokov. Eno takih naselij je bilo odkrito v *Malih Dolah pri Stehanji vasi* (sl. 14) leta 1985 med gradbenimi deli. Na pobočju, ki se spušča proti dolini, v kateri je jezerce, ki ne presahne, so bili najdeni ostanki lonca z ravno odrezanim razširjenim ustjem, na katerega je pripet trakast ročaj z okroglo sploščeno bradavico z vtisom. Najdba je pripisana mlajši bronasti dobi (Pleterski 1986, 244), vendar pa oblika ustja in okras kažeta podobnosti z gradivom iz Podsmreke.

V *Ivančni Gorici* (sl. 14) je bila med zaščitnimi izkopavanji leta 2008 in 2009 v stari strugi potoka odkrita večja količina keramičnih in nekaj bronastih najdb, ki bi tja lahko prišle iz domnevne naselbine na pobočju pod cerkvijo Sv. Jožefa. Najstarejši predmet je bronasta igla z bikonično glavico in predrtim vratom, okrašena s polkrožnimi in ravnimi vrezi ter križno profiliranim trupom. Igla (sl. 15: 1) pripada tipu Paarstadl, ki se z iglo z Brinjeve gore (Gabrovec 1983, 40–51, t. I: 10–12; Pahič 1985, t. 14: 4; Pahič 1990, 11) in iglo iz Dobrave pri Dobrničju (Šinkovec 1995, 119, t. 36: 253; Svoljšak 2000, 115, sl. 3: 3) navezuje na srednjeevropsko kulturo grobnih gomil, datirana pa je v sam začetek srednje bronaste dobe, tj. Bd B1 (Innerhofer 2000, 34, t. 2; 7; 14–16; karta 3; Plestenjak et al. 2013, 33, t. 7: 4). Srednjebronastodobno provenienco kažejo posode, ki so okrašene z bradavicami s kaneluro, z ustji v obliki črke T, z ravno odrezanimi in nazven razširjenimi ustji in ustje, preoblikovano z rogljastim izrastkom. Med najdbami, ki imajo dobre paralele v Podsmreki, je osem tipov loncev (L 1, L 4, L 5, L 9, L 11, L 12, L 13, L 14), trije tipi skodel (SK 1/2, SK 3, SK 5, SK 8), skleda S 5, vrč in nekaj odlomkov miniaturnih posodic MP 3, kar dokazuje, da sta bili naselbini nekaj časa poseljeni sočasno (sl. 15). Med bronastodobnimi najdbami sta najmlajši igla s kijasto glavico, okrašena s tankimi vodoravnimi vrezi, med katerimi je vrezan motiv smrekove vejice, in verjetno tudi miniaturna skodelica s poševno kaneliranim trupom (sl. 15: 2,16), datirana v stopnjo Bd D/Ha A1 (Řihovský 1979, 151; Teržan 1995, 327; Plestenjak et al. 2013, 31–36, t. 4: 1).

Podsmreškemu gradivu je podobnih tudi nekaj profiliranih koščkov keramike z *Mrzlega Polja* pri Ivančni Gorici (sl. 14). Gre za ravno odrezana razširjena ustja, odlomek ostenja posode z bradavico, obdano z ozko kaneluro, in fragment sklede, ki je podobna podsmreškemu tipu S5. Keramika je bila redko posejana v arheološki plasti, kamor je

najverjetneje zašla z naplavinami iz naselbine, ki ji pripadajo opisane najdbe iz Ivančne Gorice (Jerin 2008, 62, 65, G 213, G 218, G 265, G 271, G 318).

Ob cesti med vasjo *Krka* in zaselkom Gradiček pri Krški jami (sl. 14) so leta 1975 ob gradbenih delih na farovškem travniku poškodovali več keramičnih posod, ki so najverjetneje pripadale grobu. Leta 2003 so jamarji v *Krški jami* našli ostanke najmanj štirih skeletov in številne kose prazgodovinske keramike. Pri obeh najdbah gre za pitose in lonce, okrašene z bradavicami, ki jih obdaja kanelura, ter sklede z roglji na ustju, ki imajo zelo dobre primerjave v keramičnem gradivu iz Podsmreke in so datirani v Bd B2/C (Murgelj 2018; Škvor Jernejčič 2020, 24–32).

V *Dolenjem Podborštu pri Trebnjem* (sl. 14) je bila med izkopavanji leta 2007 odkrita večja bronastodobna naselbina. Keramika je bila tako kot v Podsmreki v večjih in manjših zgozditvah. Obe naselbini povezuje tipološko podobno gradivo (sl. 16), saj ju družijo kar osem tipov loncev (L 1, L 2, L 3/2, L 4, L 9, L 11, L 12, L 13), štiri tipi skled (S 1, S 2, S 5, S 6) in šest tipov skodel (SK 1/2, SK 1/3, SK 2, SK 5, SK 6, SK 8) ter pitosi P 1 in P 3 (sl. 16; Masaryk 2013, 49). Keramične črepinje nimajo veliko okrasa, vendar lahko opazimo različno nalepljena, razčlenjena in gladka rebra, s kaneluro obdane bradavice in vrezane šrafirane trikotnike. Naselbina je datirana v čas od Bd B2/C do Bd D in podobno kot Podsmreka nima elementov, značilnih za HaA1. Datacija naselbine je podprta z radiokarbonskimi analizama, ki kažeta na čas poznega 16. in drugo polovico 15. st. pr. n. št. (Masaryk 2013, 90–91, sl. 60; 61).

Bronastodobna naselbina blizu vasi *Žlebič* (sl. 14) leži na manjši vzpetini vzdolž cestne povezave med Ribnico in Kočevjem. Čeprav so bila zaradi širitve kamnoloma izvedena le dvodnevna zaščitna izkopavanja, so dala po oblikah in okrasu bogato keramično gradivo, ki kaže na poselitev v srednji in mlajši bronasti dobi (Puš 1988–1989). Žlebiško keramično gradivo je primerljivo s podsmreškim tako v oblikah kot okrasu.

Sklep

Bronastodobna naselbina v Podsmreki se uvršča v virovitiško skupino, ki ima jedro v medrečju Save in Drave, na zahodu sega do pogorja Kalnik in reke Krapine, na jugu prek Save v severno Bosno in na vzhodu do izliva Drave v Donavo. Prva jo je na Hrvaškem opredelila Ksenija Vinski-Gasparini

in jo v svojem kronološkem sistemu postavila v I. stopnjo KŽG z močno tradicijo kulture grobnih gomil srednjega Podonavja. Časovno jo je opredelila na prehod srednje v pozno bronasto dobo (Bd C/Bd D) v smislu srednjeevropske kronologije, tj. konec 14. in začetek 13. st. pr. n. št. (Vinski-Gasparini, 1973; 1983, 552). Spodnja časovna meja skupine se ji je zdela jasno opredeljena s prodorom skupine Baierdorf Velatice proti koncu Bd D (ok. l. 1230) oziroma s pojavom velikega števila depojev, kar je označila kot II. stopnjo KŽG (Vinski-Gasparini 1973, 65; ead, 1983, 557).

O trajanju te skupine, predvsem o njenih začetkih, je bilo kar nekaj polemik. Tako je Janez Dular predvidel trajanje od konca Bd C skozi celo D do Ha A1. Za Oloris in Rabelčjo vas je na podlagi tipologije keramike predlagal delitev virovitiške skupine na starejšo (Bd C–D) in mlajšo fazo (Bd D–Ha A1; Dular, Šavel, Tecco Hvala 2002, 205–206; Dular 2011, 130). Prezgodnja se mu je zdela datacija v Bd B2–C, ki jo je postavila Biba Teržan na podlagi igle z žebličasto glavico iz Olorisa pri Dolnjem Lakošu, značilne za srednjo bronasto dobo (Teržan 1995, 327), kar je utemeljeval s primeri, kjer se pojavljajo tudi v mlajših kontekstih (Dular 1999, 96). Biba Teržan je na podlagi primerjav najdišč s keramiko, okrašeno z vrezanimi trikotniki in bradavicami s kaneluro, ter z značilnimi ustji v obliki črke T in P zagovarjala stališče, da so zgodnji začetki naselbine v Olorisu pri Dolnjem Lakošu že v Bd B2/C1 in da je bila pod vplivom srednjeevropske kulture gomil (Teržan 1999, 2010).

Nov kulturni pojav, ki je nasledil kulturo bronastodobnih gomil, na Hrvaškem imenujejo virovitiška skupina, segal pa je tudi na območje vzhodne in osrednje Slovenije, kjer se je zanj uveljavilo poimenovanje horizont Oloris-Podsmreka. Najdišča tega horizonta združujejo podobne oblike posod in okrasa (Teržan, Črešnar 2014, 683–685). Časovni razpon je precej širok, z začetkom v drugi polovici 16. st. in zatonom v prvi polovici 12. st. pr. n. št., kot kažejo radiokarbonske datacije z območja Slovenije, pridobljene z velikega števila raziskanih najdišč pri gradnji avtocestnega križa.

Nove ugotovitve prinaša tudi študija Brine Škvor Jernejčič (2020) o žganih in skeletnih grobovih z območja Slovenije, ki so datirani v čas od srednje do začetka pozne bronaste dobe. Za horizont Oloris-Podsmreka je predlagala delitev na zgodnjo (tj. Bd B1–C1, konec 16. in 15. st. pr. n. št.), srednjo (tj. Bd C2, 14. st. pr. n. št.) in pozno stopnjo (tj. Bd D, 13. st. pr. n. št.). Žgane grobove iz Podsmreke in skeletne iz Krške jame je na podlagi analogij in radiokarbonskih datacij časovno opredelila v Bd B2/C, torej v srednjo stopnjo horizonta Oloris-Podsmreka.

Obstoj naselbine pri Podsmreki v srednji in na prehodu v pozno bronasto dobo podpirajo tudi štiri radiokarbonske datacije vzorcev oglja iz različnih zgostitev (Murgelj 2014b, 448–450). Konvencionalna in vmesna datacija omejujeta trajanje naselbine na okoli 100 let, medtem ko je pri kalibriranih datacijah razpon večji (*sl. 17*): od 1420 do 1100 BC (2 Sigma) in od 1400 do 1140 BC (1 Sigma).

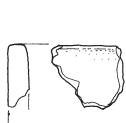
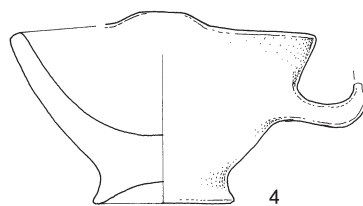
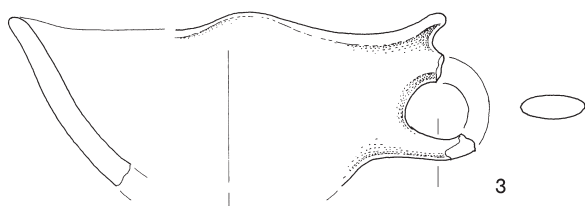
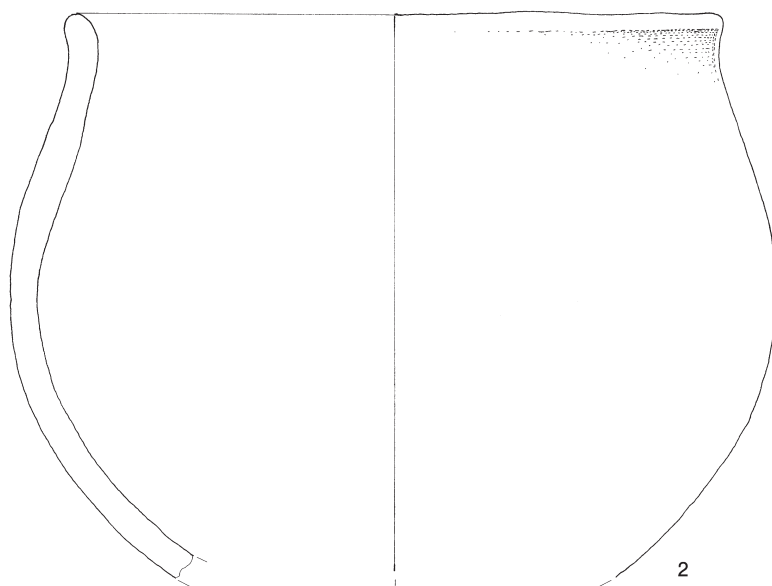
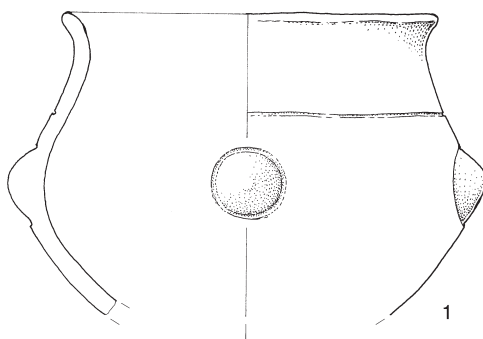
Zaključimo lahko z ugotovitvijo, da je bila bronastodobna naselbina v Podsmreki obljudena v času Bd B2/C, nima pa mlajših elementov (poševno fasetirana in kanelirana ustja ter obodi posod, ostrejši profili posod in presegajoči ročaji), ki bi kazali na njeno obljudenost še v stopnji Bd D in Ha A1 in kar naj bi bila posledica vpliva skupine Baierdorf Velatice.

Zahvala

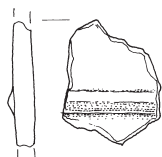
Za potrpežljivost in vse vzpodbudne besede se zahvaljujem prof. Bibi Teržan in glavni urednici Sneži Tecco Hvala.

Ida Murgelj
Narodni muzej Slovenije
Prešernova 20
SI-1000 Ljubljana
ida.murgelj@nms.si
<https://orcid.org/0000-0002-9988-3266>

Gr. 1



5



6



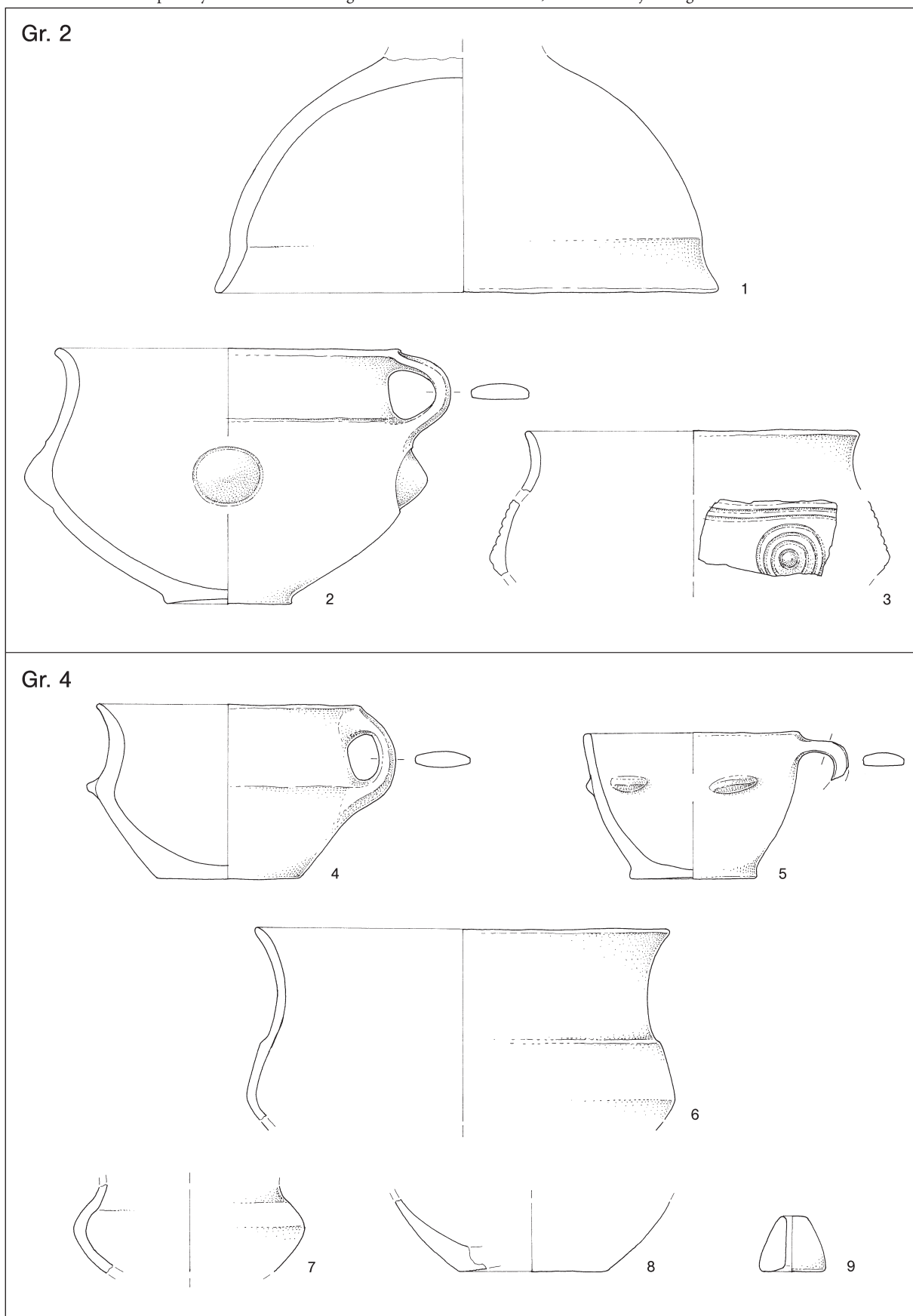
7



8

Pl. 1: Podsmreka 2. 1–8 Grave 1. All pottery. Scale = 1:3.

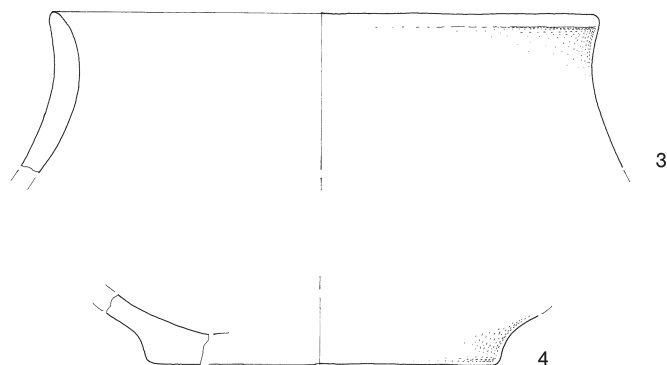
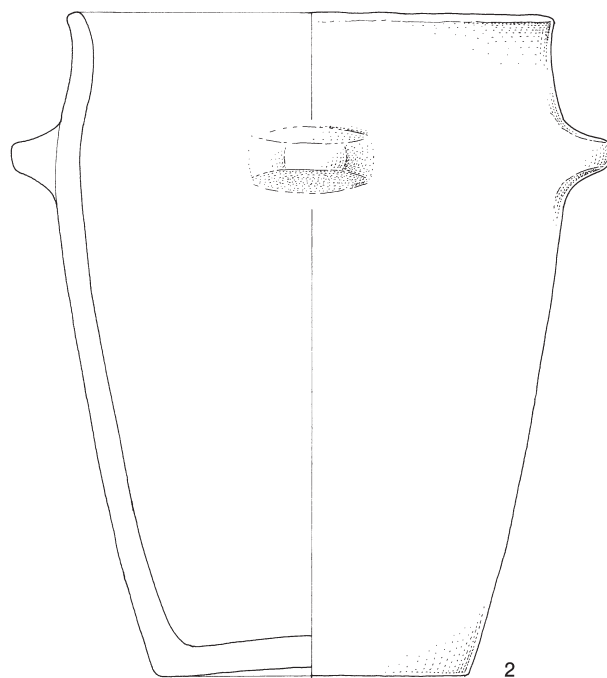
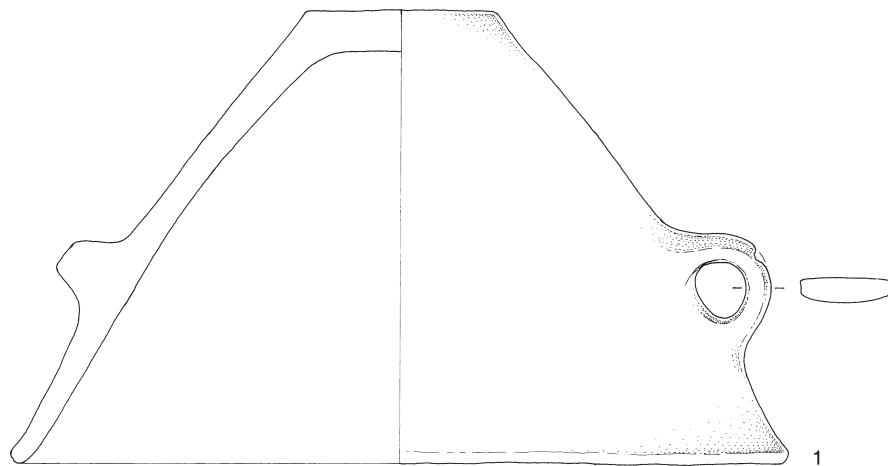
T. 1: Podsmreka 2. 1–8 grob 1. vse keramika. M. = 1:3.



Pl. 2: Podsmreka 2. 1-3 Grave 2; 4-9 Grave 4. All pottery. Scale = 1:3.

T. 2: Podsmreka 2. 1-3 grob 2; 4-9 grob 4. Vse keramika. M. = 1:3.

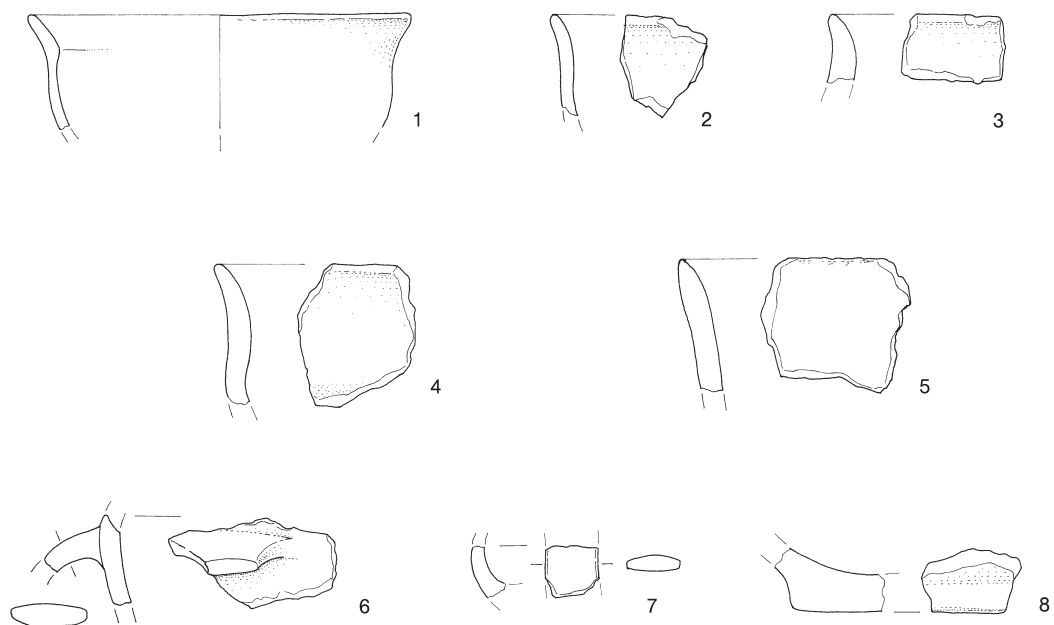
Gr. 3



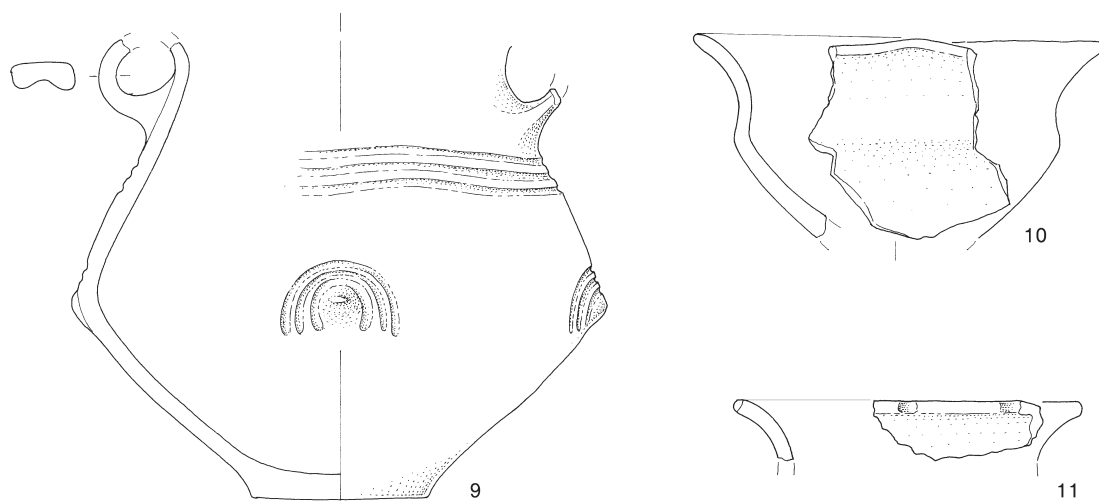
Pl. 3: Podsmreka 2. 1-4 Grave 3. All pottery. Scale = 1:3.

T. 3: Podsmreka 2. 1-4 grob 3. Vse keramika. M. = 1:3.

Gr. 3



Gr. 5



Pl. 4: Podsmreka 2. 1-8 Grave 3; 9-11 Grave 5. All pottery. Scale = 1:3.

T. 4: Podsmreka 2. 1-8 grob 3; 9-11 grob 5. Vse keramika. M = 1:3.