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"Late Hallstatt" hillforts in the Western Carpathians: new contribution to an old discussion

ABSTRACT

The article presents new research on fortified settlements from the Early Iron Age in the Orava and Dunajec river valleys. Based on the characteristics of the construction of the fortifications and similarities in terms of material culture, we propose recognizing the hillforts discovered here as a manifestation of one cultural and settlement horizon related to the so-called Pre-Púchov stage. The radiocarbon determinations obtained for the contexts stratigraphically related to the ramparts from the Nižná-Ostražica, Zabrzeż-Babia Góra, and Maszkowice-Góra Zyndrama sites are already located on the calibration curve after the so-called Hallstatt plateau and allow this horizon to be dated to the 4th century BC, i.e. to the times corresponding to the La Tène B1–B2 phases. Our observations confirm the opinions appearing in more recent literature about the need to date the Pre-Púchov stage in Slovakia earlier, and discuss the thesis about the continuation of settlement at the beginning of the La Tène period. With regard to the Polish Carpathian zone, arguments indicating the possibility of the survival of settlements with Early Iron Age traditions up to the 4th century BC are presented for the first time. This allows us to assume that the process of the formation of the cultural tradition of the La Tène period here progressed in a similar manner to Slovakia, and it was not solely the result of migration from the latter.

KEYWORDS

Early Iron Age, La Tène period, Western Carpathians, hillforts, prehistoric fortifications

I. INTRODUCTION

The middle of the 1st millennium BC, i.e. the younger stage of the Early Iron Age, is a period of key importance for the formation of protohistoric Europe. The expansion of the peripheral zone of the Mediterranean urban civilization, combined with the development of social hierarchies and economic changes, led to the emergence of two important cultural centres influencing the surrounding areas – the Scythian culture in the steppes of eastern and south-eastern Europe, as well as the younger phase of the Hallstatt circle and the La Tène culture which followed in the Circum-Alpine zone. The Western Carpathians are one of the areas where the influence of these two traditions intersect. In this mountainous area, which now straddles the border of modern Poland and Slovakia, an apparent densification of the settlement network can be observed in the first half of the 1st millennium, based on naturally defensive or fortified settlements (Miroššayová 1992; Madyda-Legutko 1995; Chorąży, Chorąży 2015; Markiewicz 2020). The latter category of sites is the subject of the research presented in this article.

The state of research on defensive settlements from the Early Iron Age in the Western Carpathians is uneven. In Polish archaeology, attention was paid long ago to the presence of numerous strongholds from the end of the Bronze and the Early Iron Age (Żurowski 1927; Żaki 1966; Gedl 1976; Leńczyk 1983), however more recent studies do not allow for the positive verification of most of the fortifications discovered on these sites (e.g. Poleski 2004). The fact of a thorough transformation of the area of many prehistoric sites during the construction of Early Medieval strongholds is of significant importance. Hence, although it is known that numerous naturally defensive hilltop settlements functioned in the Early Iron Age on the outskirts of the Moravian Gate, in the Carpathians foothills and on the edges of mountain valleys (Tunia 1977; Madyda-Legutko 1995; 1996; Przybyła, Skoneczna 2014; Chorąży, Chorąży 2015; Markiewicz 2020), only in the case of two sites do we have evidence confirming the existence of fortifications from that period. The situation is different in the territory of Slovakia, where not only the state of preservation of the prehistoric fortifications is better, due to the lower intensity of medieval settlement processes, but also the continuation of the tradition of erecting fortifications from the younger Hallstatt period to the La Tène period is discussed (Pieta 1982; 1983; Čaplovič 1987; Benediková 2006).

In our study, we intend to focus on the presentation of new findings on Early Iron Age fortifications in two regions of the Western Carpathians: in

the area of Orava and the valley of the middle Dunajec river. In particular, we will characterize three sites, located in the villages of Nižná, Zabrzeż and Maszkowice, which have either been recently excavated or were the subject of studies allowing the reinterpretation of previously obtained results. We will look at how the fortifications on these sites were constructed and discuss whether it is justified to consider them as manifestations of one architectural tradition. Next, we will also look at the signs of the relationship between these two areas that are discernible in the pottery style. Finally, in the last part of the article, we will consider the chronology of the phenomenon in which we are interested, and in particular the possibility of a potential continuation of the settlement network from the end of the Hallstatt period to the older stages of the La Tène period in the Polish part of the Western Carpathians.

Nižná, Ostražica

The first site of interest is located on the top of a limestone hill 767 m above sea level, which towers over a bend in the Orava river, in the village of Nižná nad Oravou. The hilltop settlement was the subject of amateur research as early as the nineteenth century (Kubínyi 1892, 160 ff.). Then, several excavation campaigns (1965, 1979 and 1989) were conducted there by P. Čaplovič from the Orava Museum. In the course of these studies, it was established that there are two fortification systems in the area of the hill, corresponding to two terraces noticeable in the land relief. The outer one, in the form of a palisade, was to run along the edge of the hilltop plateau, which was clearly visible especially from the northwest. The second line of fortifications ("acropolis") was reconstructed as a timber-laced rampart with stone facing from the outside and inside (Čaplovič 1987, 150–151, fig. 74). Alongside this construction, the remains of wooden buildings were discovered, including the relics of a weaving workshop. Although both the Early Iron Age and the La Tène period artefacts come from the site, P. Čaplovič (1987, 149–155) determined that the fortifications were erected in the first of the above-mentioned periods.

The new field project was carried out in 2018–2019 by the Orava Museum. At its initial stage, the inner part of the settlement was excavated (Lofajová Danielová 2019, 107), and then geophysical research was carried out on almost the entire area of the top part of the Ostražica hill (Fig. 1; Felcan 2019). The latter made it possible to correct some of the earlier findings. First of all, it turned out that the massive rampart of the inner line of the fortifications is not closed from the southeast. There, the rampart continues below the terrain

marking the edge of the "acropolis" and connects with the external palisade system of fortifications (Fig. 2). A large number of geomagnetic anomalies that were discovered within the fortifications indicate a well-organized layout of the settlement space and the presence of settlement features also outside the area surrounded by the palisade.

Two test trenches from 2019 were aimed at the more detailed recognition of the above-mentioned sections of the rampart, which run across the steep south-eastern slope, connecting the fortifications of the "acropolis" with the palisade. In trench 9/2019, the fortification was found to be on a levelled gravel base (K4) and had the form of an embankment built of clay and gravel (K1), probably with a timber-laced construction which was approx. 4 m wide. The embankment has an outer shell (K2) in the form of a wall made of broken sandstone blocks stacked without mortar (Fig. 3: a) and only rarely of other raw materials (limestone or pebbles). It seems that the sizes of the material used were standardized – typically, the sandstone blocks used were 20-30 cm long, 6-10 cm wide and 5-6 cm thick. Among the stones, there were also remnants of wooden posts that were intended to strengthen the facade. The facing was only on the outer side (from the southeast), where the slope of the hillside is steepest. There the erosive layer (K7) was also documented. From the inside, where the original terrain surface was shaped in the form of a terrace, stones formed a kind of foundation (K3). Below the rampart, an older burnt layer (K5) was identified (Fig. 3: b, c). In the same period, an occupational level was formed adjacent to the embankment from the inside (K6).

In trench 10/2019, an embankment made of clay-gravel (K8) with an outer and inner shell built from sandstone blocks (K9, K10) was identified (Fig. 4: a). In front of the outer facade (K9) there was a protruding stone foundation (K11), on which a wooden structure stood and which might have been connected with the fortifications. The space between the rampart and the timber structure was initially empty and it was only after the outer shell began leaning towards the interior of the embankment that was it filled with a layer of gravel (K12). The K14 and K15 contexts (cultural layers) are associated with the settlement activity in the vicinity of the embankment. Below the embankment, the older feature (K13; F6) was also partially excavated (Fig. 4: b).

It should be emphasized that despite the spatial relationship between the examined sections of the embankment and the "acropolis" fortifications visible in the geophysical survey, it has not been unequivocally proven that both components of the fortification system are identical in terms of chronology.

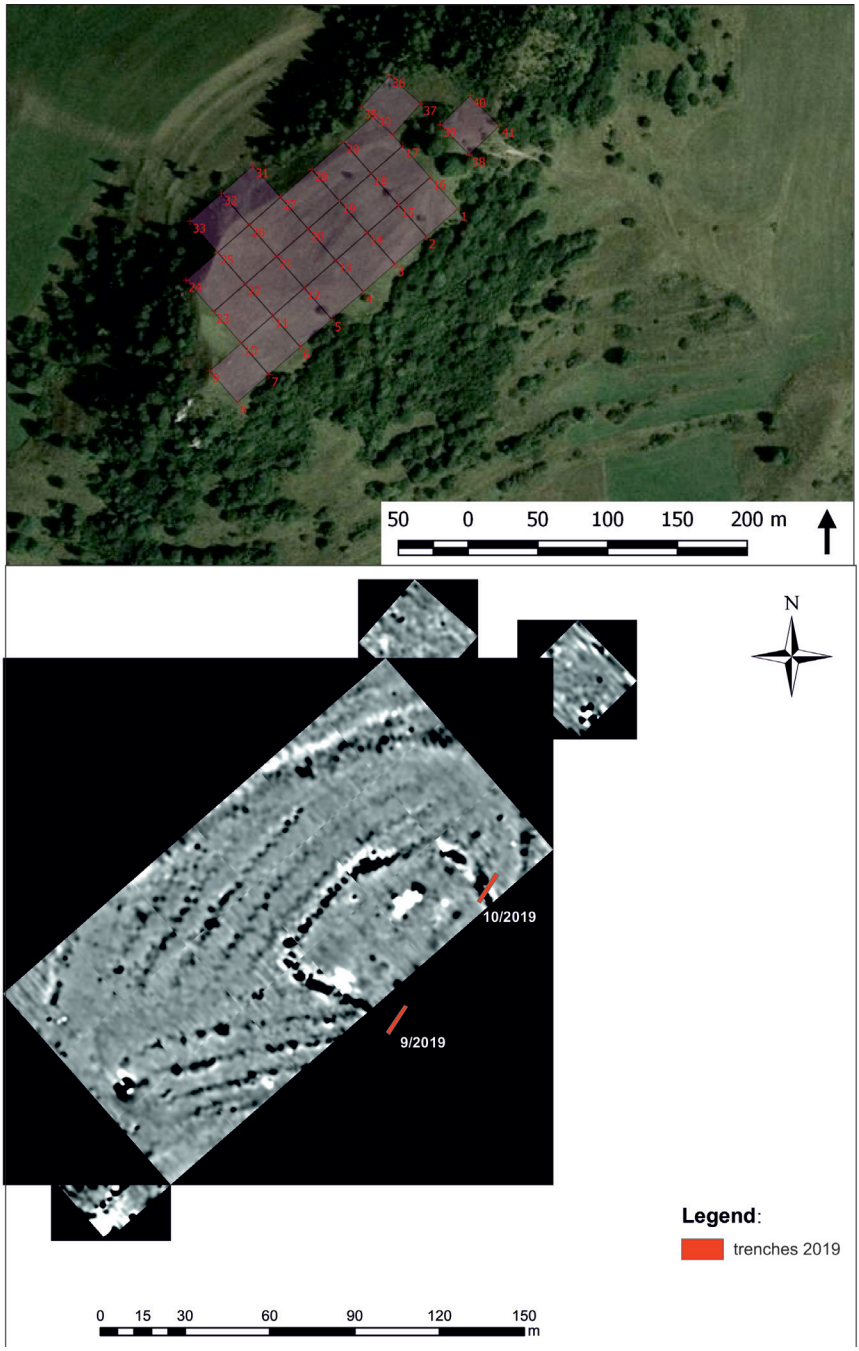

FIG. 1. Nižná, Ostražica. Geophysical prospection (performed by M. Felcan)

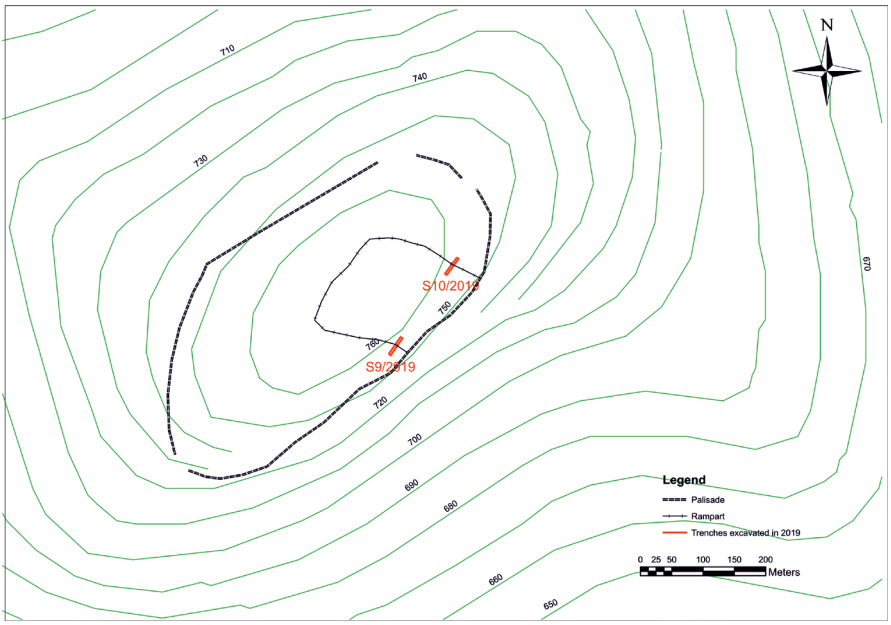

FIG. 2. Nižná, Ostražica. Plan of the Iron Age fortification (drawn by B. Lofajová Danielová)

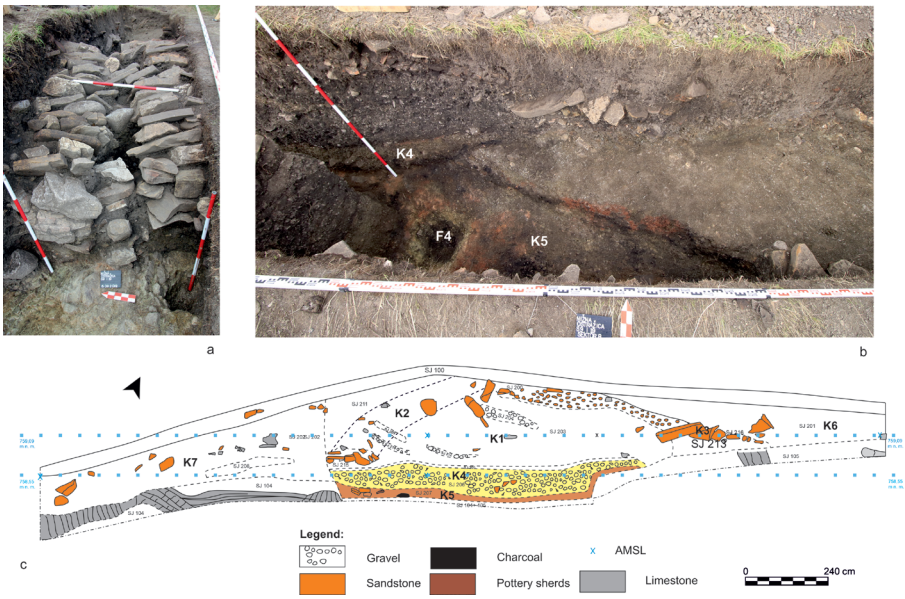

FIG. 3. Nižná, Ostražica. Trench 9/2019. a – Destruction of the front stone facing; b – stratigraphy of the feature nr 4; c – NW profile (drawn by B. Lofajová Danielová)

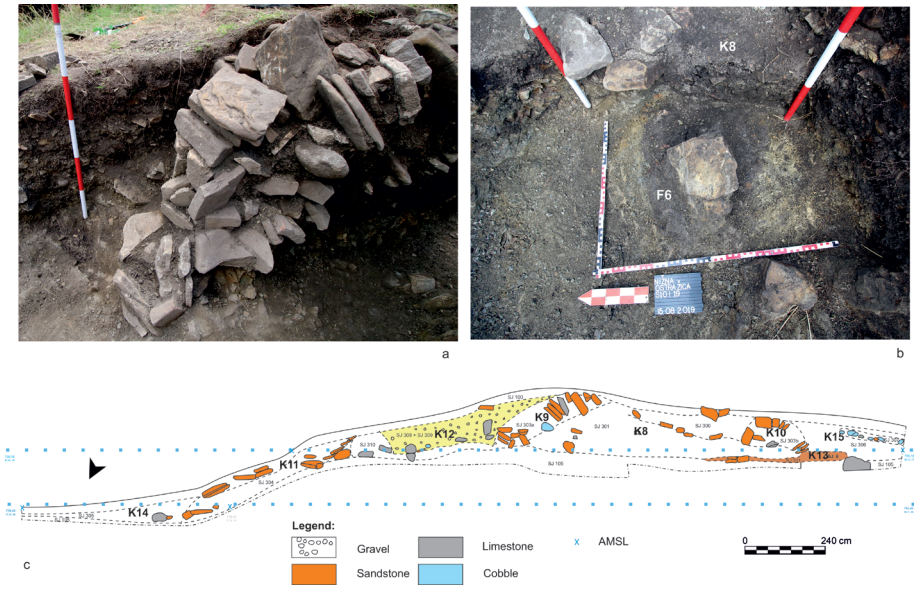

FIG. 4. Nižná, Ostražica. Trench 10/2019. a – Destruction of the front stone facing and the gravel-clay embankment; b – stratigraphy of the feature nr 6; c – SE profile (drawn by B. Lofajová Danielová)

Zabrzeż, Babia Góra

The site occupies a very small (0.05 ha) top plateau of the ridge called Babia Góra (450 m above sea level), which rises above the valley of the Kamienica river – a left tributary of the Dunajec river. During the excavation works carried out in 1957 (Kozieł 1957; 1959) and 1963–1965 (Cabalska 1965; 1968a), a system of fortifications was identified which limited the area of the settlement from the north-west and north, i.e. from those directions from which the access to the settlement was the easiest (Fig. 5b). A detailed study of artefacts obtained from Babia Góra hillfort during excavations from the 1960s (Jędrysik *et al.* 2021) showed that these fortifications could be associated with the first phase of occupation of the site, during the Early Iron Age. The limited range of the distribution of monuments from the second phase, corresponding to the Late La Tène period, allows us to assume that the buildings in this period were limited to a single hamlet (Jędrysik *et al.* 2021).

In 2017, during the preparation of the quoted study, fieldwork was carried out, during which the cross-section of one of the trenches from M. Cabalska's

research (not buried after its completion) was uncovered and documented. In 2021, a geomagnetic survey of the plateau occupied by the settlement was also performed (Fig. 5a). Together with the information contained in the old fieldwork reports (Kozieł 1959; Cabalska 1965), the results of the above-mentioned studies make it possible to reconstruct the layout and construction of the fortifications.

Geophysical research shows that the embankment had a total length of about 50 m. None of the trenches provided its full cross-section, hence it can only be stated that its width was at least 2 meters. Based both on the information contained in the research reports and the section documented in 2017 (Fig. 7a), it can be assumed that the fortifications took the form of a clay embankment reinforced by a wooden framework (a kind of timber-laced construction) (Kozieł 1959, 110–112). The wooden elements were charred as a result of a fire on the rampart, during which the clay forming the embankment was also burnt and the imprints of massive beams were made upon it (Jędrysik 2018; Jędrysik *et al.* 2021). In 2017, a sample of organic material from the burnt wooden framework was submitted for radiocarbon dating. From the inside, the embankment had a facing made of relatively small (up to 40 cm long) blocks of sandstone,

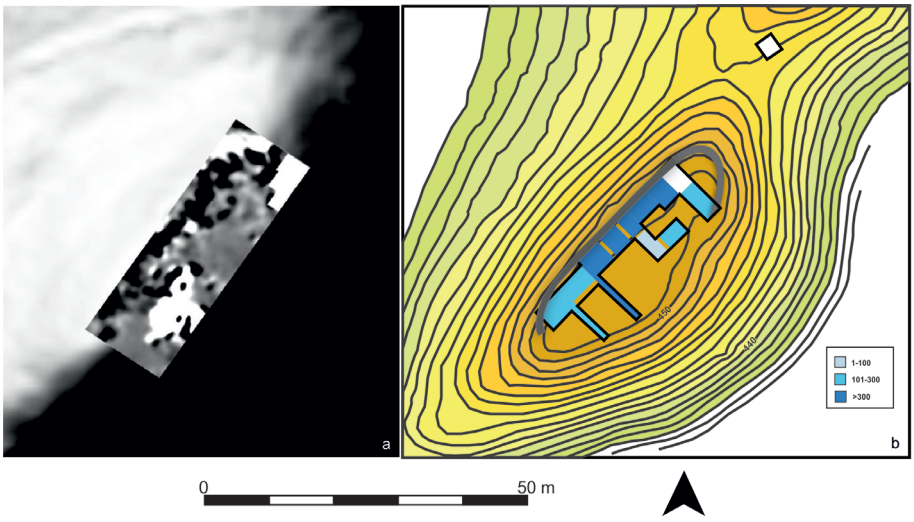

FIG. 5. Zabrzeż, Babia Góra. a – Results of the geomagnetic prospection (performed by M.M. Przybyła); b – spatial distribution of Early Iron Age pottery (after Jędrysik *et al.* 2021). The rampart line was reconstructed on the basis of the geophysical surveys and old excavations reports

which was preserved to a height of about 1 m (Fig. 7a: 2). As we do not have a full cross-section of the embankment, it is impossible to determine whether the stone facing was also on its outer side. However, it is worth paying attention to the large number of stones lying on the slope below the fortification line.

Maszkowice, Góra Zyndrama

The multi-period hilltop settlement on Góra Zyndrama (Zyndram's Hill) occupies a plateau (approx. 0.5 ha) of the promontory (409 m above sea level), which dominates the widening of the Dunajec river valley (the so-called Łącko Basin). The rich traces of prehistoric occupation preserved here, exceptionally unaffected by construction activities in the Polish Carpathians in the Middle Ages, were subjected to excavations carried out in 1959–1975 and from 2010 to the present. During these works, relics related to several phases of settlement were uncovered. The oldest come from the end of the Early Bronze Age (approx. 1750–1550 BC – the older settlement phase), the next (younger settlement phase) from the turn of the Bronze and the Early Iron Age, from the Younger Hallstatt period and the Late La Tène period. Starting from 2015, fieldwork focused on the recognition of the remains of elaborate stone fortifications related to the oldest settlement phase of the site (approx. 1750–1690 BC – Przybyła 2016; Jędrysik, Przybyła 2019). At the same time, studies on monuments and documentation from former excavations were also carried out. It was in the course of the latter that observations appeared that allow for a positive verification of the hypothesis already put forward by M. Cabalska (1963a; 1963b; 1964; 1968b; 1975; 1976a; 1976b) concerning the existence of a rampart on Góra Zyndrama dating back to the Early Iron Age. Its relics have been found in two zones on the western edge of the plateau (in the trenches from 1962, 1963 and 1975) and in its northern part, where the culmination is still visible (the trenches from 1961 and 1967). Before we characterize these fortifications, it is necessary to pay attention to a few issues related to the history of the settlement and taphonomy of the site in Maszkowice, since these are important for the interpretation of the structures of interest to us.

First of all, it should be noted that the settlement activity on Góra Zyndrama from the Early Bronze Age to the Late La Tène period was largely determined by the terrain transformations and massive stone fortifications that were built at the very beginning of the site occupation (Fig. 6). For a long time, up to the Early Iron Age, the arrangement of the buildings followed the spatial organisation of the Early Bronze Age village, and the decaying relic of

the wall was a "natural" line of fortifications inherited from chronologically distant eras up to the La Tène period. For this reason, all of the defensive structures erected in the Iron Age were probably adapted to the layout and state of preservation of the ruin of the old fortifications and therefore could have a segmental course. At the same time, it is also known that the wall from the Early Bronze Age was to some extent dismantled in the younger sections of prehistory, which may indicate that the building material was reused in the construction of the Iron Age rampart.

The Early Bronze Age fortifications clearly differ from those dated to the Iron Age in terms of the construction scheme (the former consist of a free-standing dry stone wall, not a wood-stone-earth rampart) and the size of the material used (the weight of some blocks in the facade of the Early Bronze Age wall reaches half a ton). Nevertheless, in those places where we found the remains of the Iron Age fortifications (on the north and north-west edge of the plateau), the Early Bronze Age wall is very poorly preserved. Hence, when identifying the former, we adopted two strict criteria: (1) location clearly beyond a certain or presumed line of the Early Bronze Age fortifications or in a zone where they do not occur; (2) a stratigraphic position in which an embankment or stone structure lies directly under the humus and on older layers, whether related to the older or younger settlement phase. Observations allowing for the synchronization of the relics of the Iron Age rampart with the extensive pavements that occur throughout the northern and eastern part of the site, and which mark the youngest stage in the formation of its stratigraphic sequence, were particularly important (Przybyła, Jędrysik 2017, 99–100).

One final general point needs to be made before we go into the characteristics of the Early Iron Age fortifications in those trenches where they have been documented. This is the presence of extensive landslides on the steep north-western, western and southern slopes of Zyndram's Hill. Their formation led to the partial destruction of the edge part of the plateau, which may be the cause of the limited preservation of the Iron Age embankment that was only recognised in some archaeological trenches.

The first is the trench excavated on the western edge of the plateau in 1962. A thick cultural layer was recorded there, probably formed in this place as a result of the sliding of sediments down the slope from the higher parts of the site. The stone pavement lying above was interpreted during this research as the remains of a rampart erected on the relics of buildings from the previous settlement phase (Cabalska 1964, 125). A complex stratigraphic situation was recorded in the field documentation. In the bottom part of the trench section

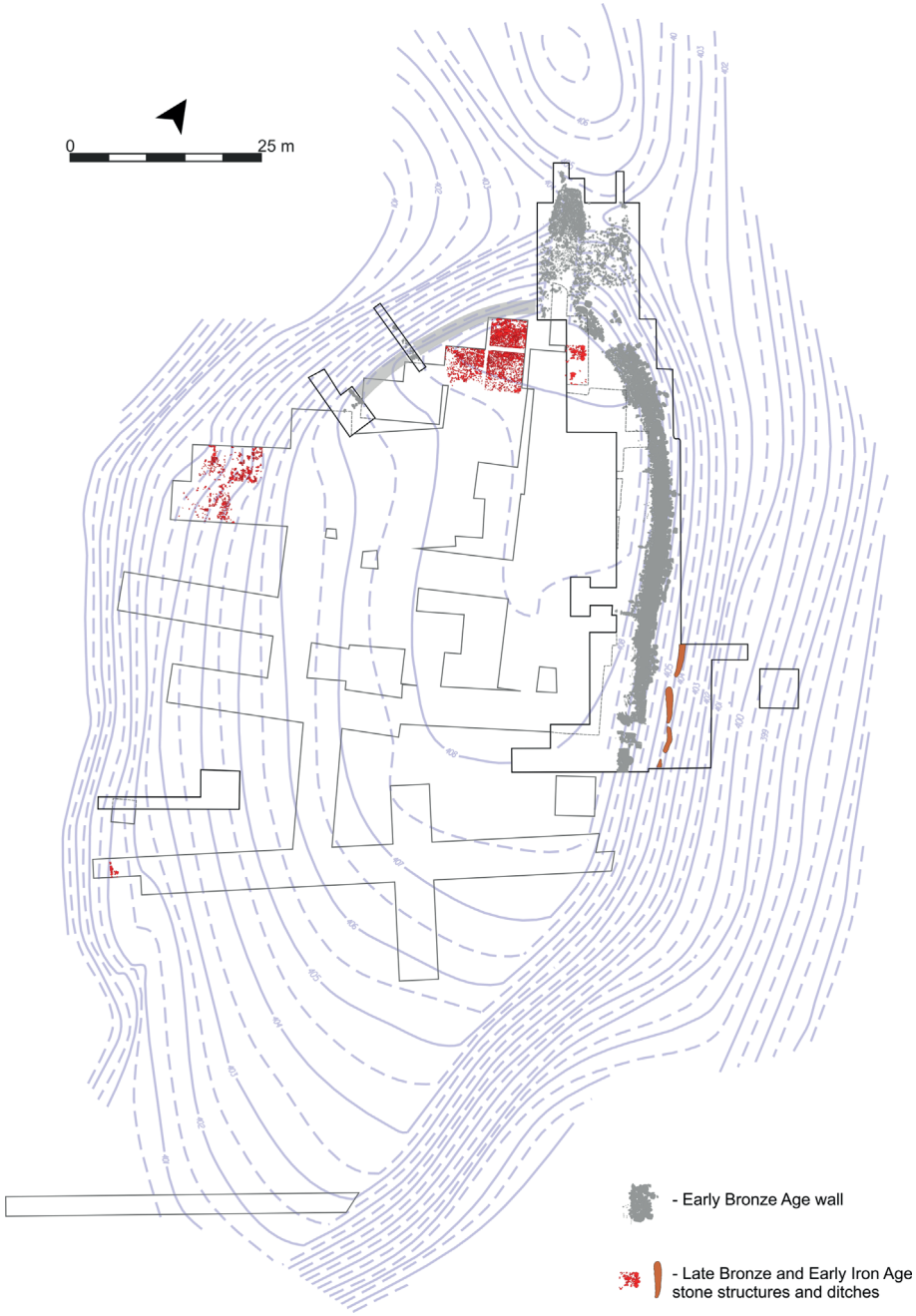

FIG. 6. Maszkowice, Góra Zyndrama. Plan of the fortifications. Stone structures linked with the Early Iron Age rampart are marked in red (drawn by M.S. Przybyła)

was the abovementioned erosive layer (Fig. 7b: 1), in which pottery was found dating back to the Bronze Age (the older settlement phase or the very beginning of the younger one). There was a layer of light clay on it (Fig. 7b: 2), in which no archaeological material was recorded (Cabalska 1964, 125). Above, at a depth of 60 cm, within a second cultural layer (Fig. 7b: 3), already saturated with pottery typical of the younger settlement phase, a relic of a structure was recorded in the form of medium-sized (up to about 30 cm long) stones, arranged closely next to each other and forming a kind of facade (Fig. 7c). It seems that these could be the remains of an inner shell of a rampart erected on a levelling stratum (clay layer), although due to the significant degree of erosion of the layers in this part of the site, it is not possible to reconstruct its build. Apparently, however, this structure was destroyed in prehistory, which resulted in the creation of another runoff layer. The youngest settlement episode would be marked by a pebble pavement (interpreted by M. Cabalska as the remains of a rampart), placed directly over the relics of an older construction.

In 1963, excavations were carried out in the north-western part of the site (Fig. 8a). Trenches were located along the embankment, still visible in the field at that time as a low elevation. The relics of the rampart itself were captured in trench II/63/2, while in the adjacent trench II/63/3 stones forming rubble were documented (Cabalska 1963b). The latter were covered with a thick layer, which might be considered as a runoff stratum related to the embankment. On the basis of the photos taken during the excavations in 1963, it was possible to conclude that there were many more stones found in the trenches than recorded in the documentation. Moreover, alongside the most common pebbles, large blocks of sandstone were also retrieved in this zone. The compactness of the recorded stone structures allows us to assume that they originally constituted the base of the rampart and, perhaps, its outer facade. With this assumption, the width of the structure at this point would be approx. 4 m. Moreover, it seems that the structure described here might be contemporary with an extensive pavement which was registered on the inner foreground of the fortification relics.

The above-described remains of stone structures continued towards the south and were also documented in trenches XIX/7–8 from 1975 (Fig. 8c). At that time, stone rubble was recorded and which covered the relics of buildings from the earlier settlement phase (Cabalska 1976a, 20–21). The field documentation shows that the aforementioned accumulation of stones from the relic of the embankment was associated with a layer of light clay that covered the older cultural stratum (Fig. 8b: 2). Thus it seems that this structure might have had the form of an earth embankment at this point, while larger stones,

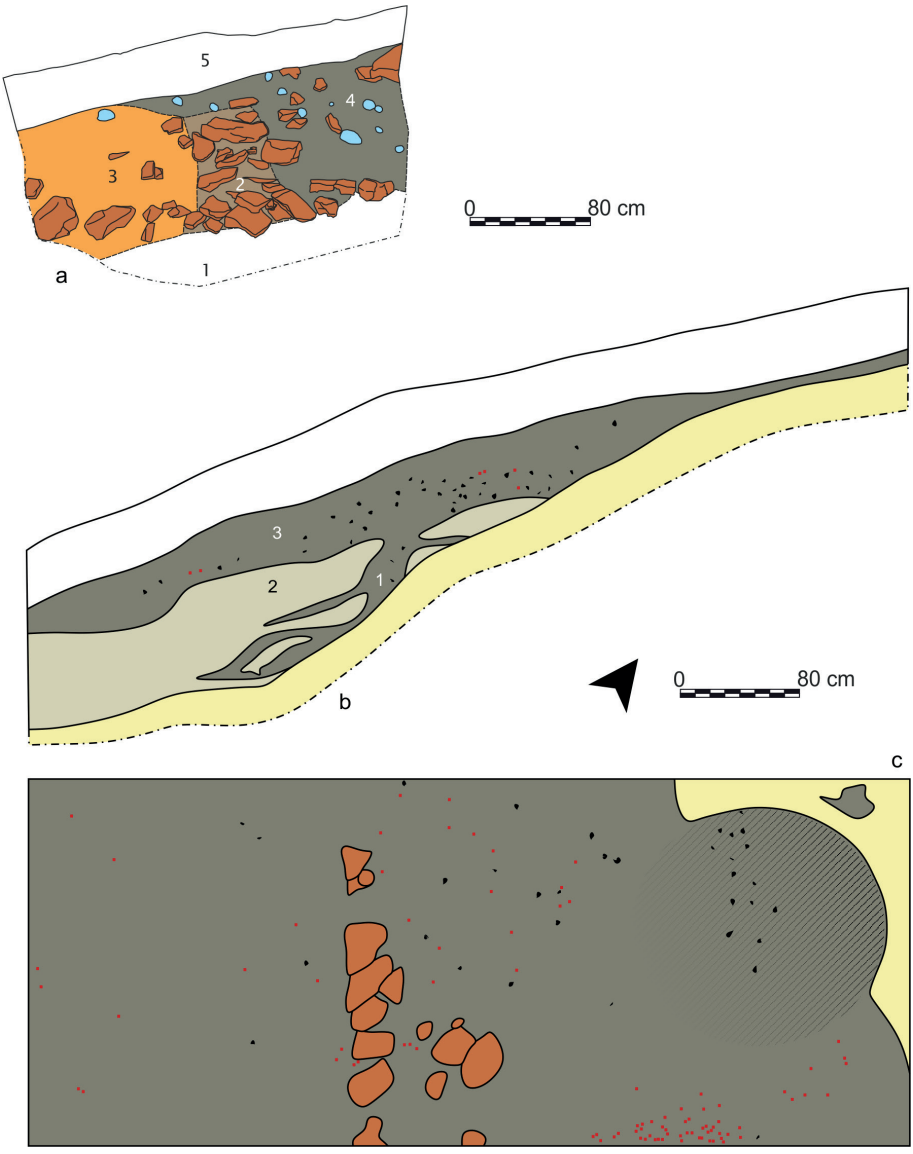

FIG. 7. a – Zabrzeż, Babia Góra. Cross-section of the rampart documented in 2017; b, c – Maszkowice, Góra Zyndrama. Trench excavated in 1962 on the western edge of the plateau – cross-section (b) and plan of the level where the facade of the rampart was recognized (c). The stones lie above layer "2" marked on the cross-section (drawn by J.A. Markiewicz, M.S. Przybyła)

visible next to small pebbles in trench XIX/75/7, could have formed the inner shell of the rampart. The poor condition of this structure can be explained by the aforementioned slope processes which are particularly intense in the western part of the site.

The remains of the Early Iron Age rampart were best preserved in the northern part of the site. In this zone, on the steep slope of the top part of the hill, there was an entrance to the Early Bronze Age fortification system which had largely been dismantled in prehistory. A segmental Iron Age rampart was located above its remains, already within the plateau. It is still visible in the land relief, both from the inside and outside of the fortified area (its range corresponds more or less to the contour line 409 m above sea level), although it was much more clearly visible before the start of the excavation. The cross-sections of the rampart were documented in the trenches from 1967 (II/67/3–4, III/67/1) and 1961 (test trench through the earthwork and trench I/61). However, no traces of the Early Iron Age fortifications were revealed in the adjacent excavation area from 2017, where the embankment had been entirely destroyed by a large modern pit.

The stratigraphic sequence in this part of the site was quite clear, and the conclusions relating to it are well confirmed in the analysis of the artefacts. The remains of the rampart lay – as in the western part of the site – on older strata, here represented by a thick clay levelling layer, and in some places also an occupational layer, both dated back to the Early Bronze Age (Fig. 9a: 2-3, 9b: 1-2). The inner stone shell of the rampart, well preserved in some places, was made of relatively large sandstone blocks, up to 70 cm long (Fig. 9c, 10). On one of the cross-sections, the facade (Fig. 9a: 7) was inclined and leaned on an embankment made of clay mixed with humus (Fig. 9a: 4), under which a deep posthole was documented (Fig. 9a: 6). However, it should be emphasized that the earthwork itself is very poorly preserved and it is not possible to state whether the structure also had facing on the outside. A dense stone pavement adjoined the facade from the inside (Fig. 9c, 10). One of the cross-sections documented that the pavement not only covered the Early Bronze Age strata but also the layers from the younger settlement phase deposited at some distance from the inner face of the rampart (Fig. 9b). Therefore – as it was in the case of the traces of fortifications revealed during the excavations in 1963 and 1975 – we can conclude that the segmental rampart in the north of the site constitutes one of the youngest manifestations of building activity recorded on the site. Moreover, the erection of this structure can be synchronized with the period of the formation of the extensive pavements which have been discovered on the entire eastern

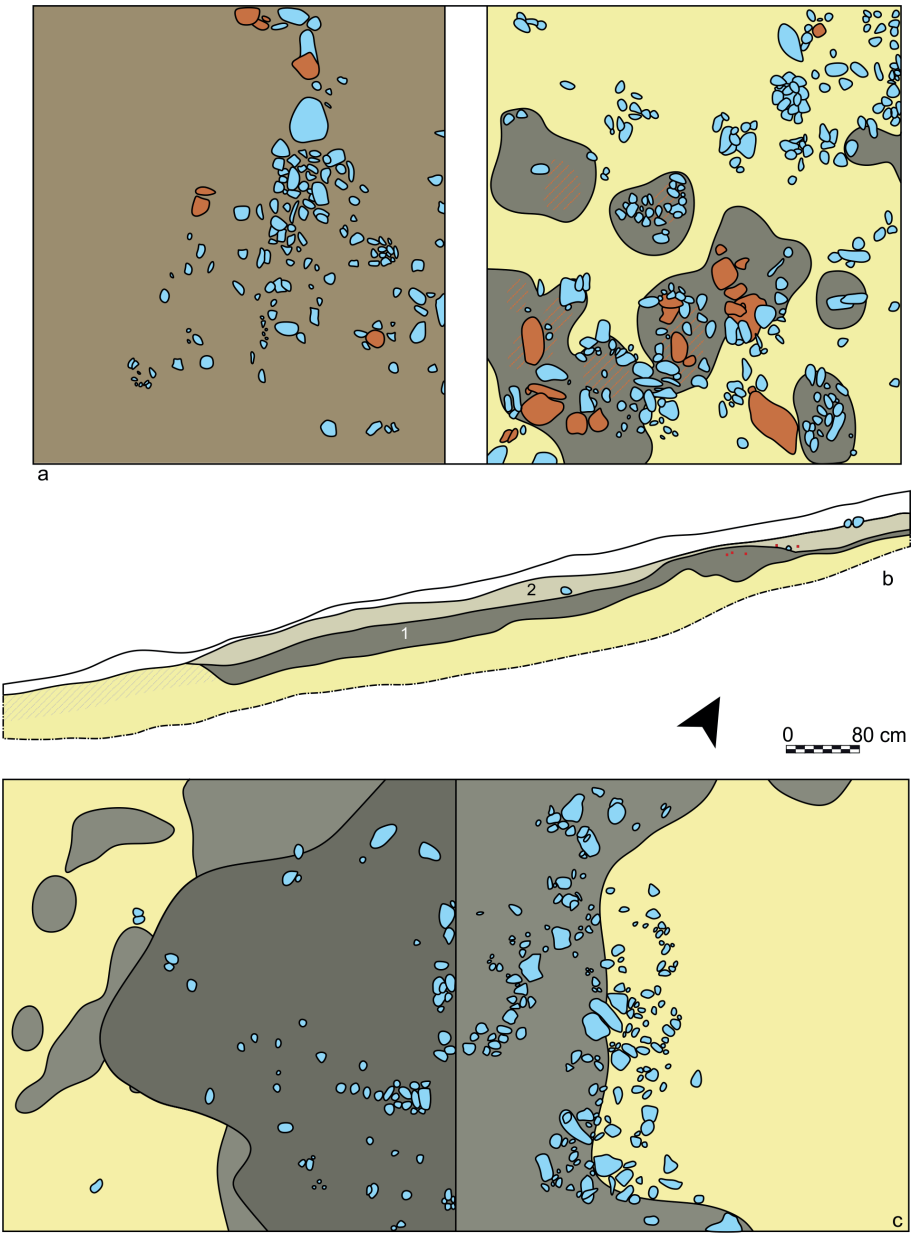

FIG. 8. Maszkowice, Góra Zyndrama. Iron Age stone structures in the trenches excavated in 1963 (a) and in 1975 (c); b – cross-section of the cultural layers in this zone (drawn by J.A. Markiewicz)

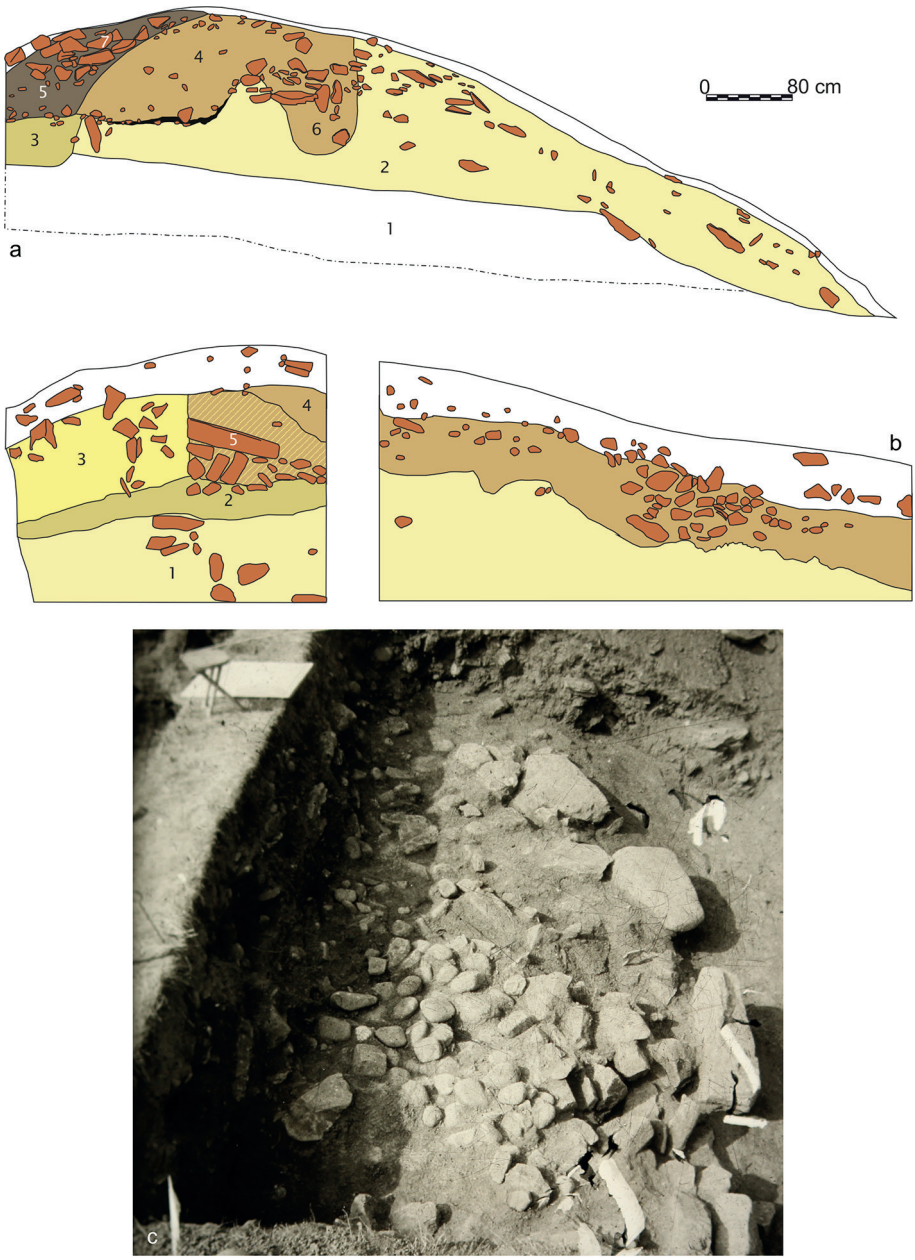

FIG. 9. Maszkowice, Góra Zyndrama. Relics of fortifications on the northern edge of the plateau – cross-sections of the trenches excavated in 1961 (a) and in 1967 (b); c – stone facade of the rampart and the adjacent pavement on a photography taken during the excavations led by Maria Cabalska in 1967 (drawn by M.S. Przybyła)

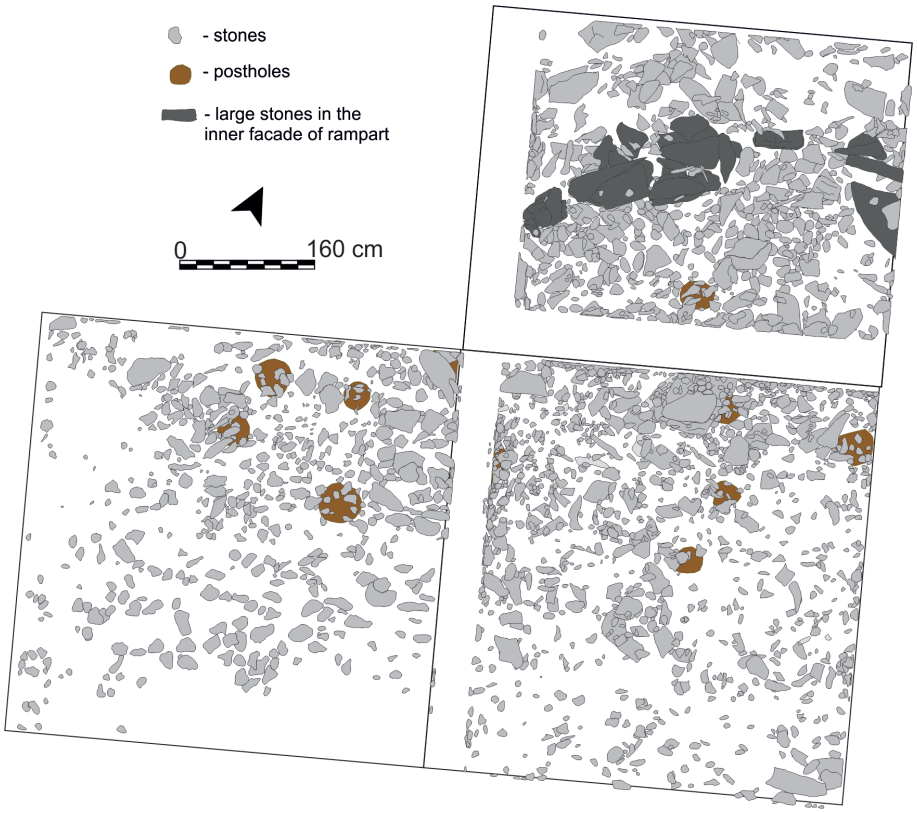

FIG. 10. Maszkowice, Góra Zyndrama. Stone structures linked with the Early Iron Age fortifications discovered in 1967 and postholes documented below them. Large stones forming several layers of the preserved rampart facade are marked in dark gray (drawn by J. Ledwoń)

and northern edge of the top plateau of Góra Zyndrama (Przybyła, Jędrysik 2017, 99–100). It is also worth noting that the extent of the pavements at the inner face of the Early Iron Age rampart coincided spatially with the zone in which some postholes are clustered (Fig. 10). This may suggest that (as in the case of the "acropolis" earthwork from the Nižná-Ostražica stronghold) there were wooden buildings erected directly alongside the fortification line[1].

1 The above-presented interpretation of the stratigraphical sequence revealed in the northern zone of the site in 1961 and 1967 was positively verified during the excavations in 2021.

The last structure that can be connected with the fortifications from the younger settlement phase at the site at Maszkowice are the remains of a palisade discovered below the eastern edge of the plateau (in trenches 10 from 2015 and 15 from 2018–2019). This structure was revealed as a series of narrow and deep (approx. 150 cm) ditches with the imprints of massive posts visible in the bottom part (Fig. 6). However, stratigraphic observations, which will not be explicitly referenced here, indicate that this palisade functioned in the early stages of the younger settlement phase (end of the Bronze Age and beginning of the Early Iron Age) and therefore did not belong to the same fortification system as segmental ramparts discovered in the western and northern part of the site.

II. RADIOCARBON DATING

The Early Iron Age fortifications in the Orava and Dunajec river valleys described above can be directly or indirectly correlated with the radiocarbon-dated contexts (Table 1; Fig. 11). For the Nižná, Ostražica site, we can take into account four dates. Three of them were obtained for one stratigraphic sequence from the southern rampart section (Fig. 3: b). A small pit (feature 4) was covered here with a burnt layer (K5), on which lay a levelling stratum (K4) being the lowest layer of the embankment. The dates received from the bone material from the first two contexts are fairly coherent, pointing to the 4th–3rd century BC. Both measurements have also younger ranges of possible calibration, spanning from the very late 3rd to the 2nd century BC, however they may be excluded from consideration as they seem to be too late for the materials discovered within the fortification remains and inconsistent with the other datings, obtained from the contexts K4 and K13. The first of them, although originating from the stratigraphically youngest layer (K4), produced the oldest measurement of radiocarbon age, pointing to late 6th and the 5th century BC. Contrary to the previously mentioned bone samples, this date was obtained from charred *Hordeum vulgare* grains. It is possible that the difference in the type of analysed material may explain the dating discrepancy. Another plausible explanation of this phenomenon is that the material used for the levelling layer (K4) came from the relics of the earlier settlement phase that significantly preceded the construction of the rampart. The fourth date from Nižná comes from the northern rampart section, from a context (K13) stratigraphically older than the embankment (Fig. 4: b). In the sequence of

radiocarbon dates from this site, it occupies an intermediate position, which after calibration suggests the end of the 5th and the 4th century BC.

While the dates from the site on Ostražica Hill mark rather a *terminus post quem* for the construction of the rampart, we have a radiocarbon age measurement of the fortifications themselves for the site at Zabrzeż. The result of the calibration of the dating produced by charred wood from the framework of the rampart allows us to assume that this construction was probably established in the first half of the 4th century BC. An alternative calibration range (3rd century BC) can be ruled out as too late for the materials from the Hallstatt period, and too early for the Late La Tène period (La Tène D) pottery found at this site (Jędrysik *et al.* 2021).

At Maszkowice, most of the radiocarbon dates obtained from the contexts of the younger settlement phase are located on the so-called Hallstatt

TABLE 1. Radiocarbon dating of the contexts related to the Iron Age ramparts from Nižná, Zabrzeż and Maszkowice, calibration after OxCal 4.4 (Hogg *et al.* 2020)

Site	Lab. code	BP	Material	Context	BC 1σ	BC 2σ
Nižná, Ostražica	MKL-A5004	2179 ±18	Bone	Feature 4, below context K5	**350-308** (41.5%), 208-175 (26.8%)	**356-280** (56.3%), 254-250 (0.6%), 232-167 (38.5%)
Nižná, Ostražica	MKL-A5005	2159 ±21	Bone	Context K5, layer below fortifications	**346-316** (28.8%), **204-166** (39.4%)	**352-287** (38.1%), 228-218 (1.4%), **211-106** (55.9%)
Nižná, Ostražica	MKL-A5006	2386 ±22	Charred grain	Context K4 (level covered by rampart)	**478-431** (39.8%), **426-400** (28.5%)	**540-397** (95.4%)
Nižná, Ostražica	MKL-A5035	2291 ±24	Bone	Feature 6 (K13) below fortifications	**399-362** (65.4%), 272-268 (2.9%)	**402-355** (71.0%), 282-231 (24.4%)
Zabrzeż, Babia Góra	MKL-3541	2290 ±60	Charcoal	Rampart, charred construction elements	**405-351** (31.9%), **290-209** (36.4%)	**515-175** (95.4%)
Maszkowice, Góra Zyndrama	MKL-2538	2335 ±60	Charcoal	Context F6 below pavements of the EIA settlement phase	536-534 (0.7%), **516-359** (61.4%), 276-261 (3.7%), 244-234 (2.5%)	747-689 (5.6%), 666-644 (2.3%), **564-345** (69.5%), 318-203 (18.1%)

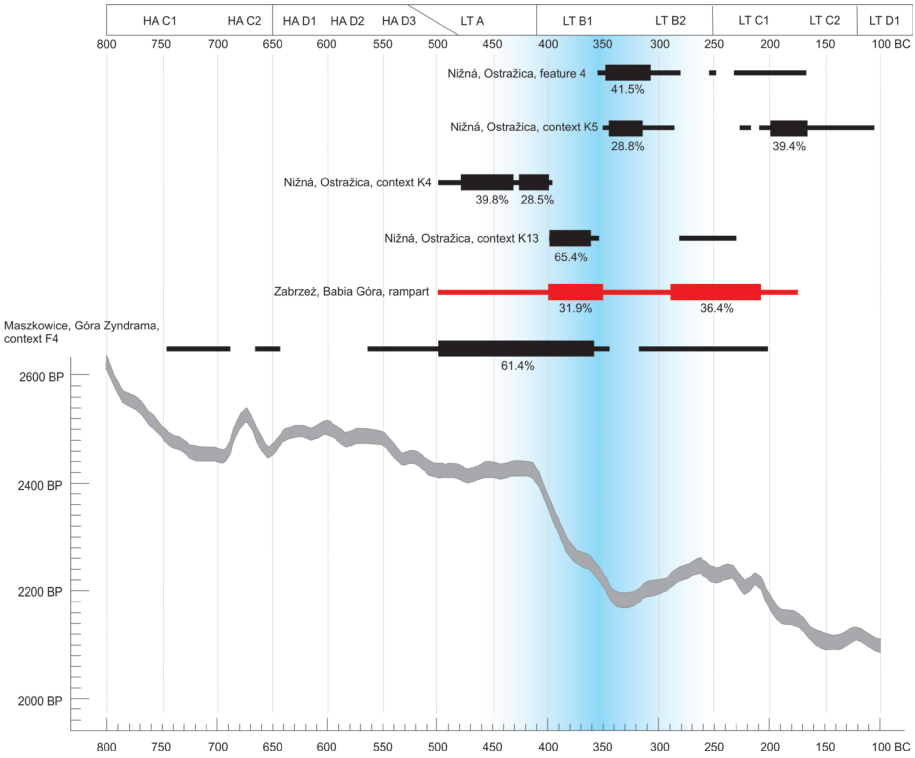

FIG. 11. Chronological chart. Radiocarbon dating (see Table 1) with 2σ error (thinner bars) and 1σ error (thicker bars) obtained for contexts preceding the erection of the Iron Age ramparts (black bars) or for the rampart itself (red bar). Blue-shaded area marks the common zone of all dates. Segment of calibration curve encompassing so-called Hallstatt plateau after OxCal 4.4 (Hogg *et al.* 2020). Relative chronology after Brandt 2001 and Trachsel 2004 (drawn by M.S. Przybyła)

plateau and they have very wide calibration ranges. The exception is the date obtained from charred wood from the ceiling part of the backfill of a hemisphere-shaped pit (layer F6). This context was covered with the stone pavement that occurs throughout the eastern and northern parts of the site and can be synchronized with the rampart construction (see above). Consequently, the date obtained after calibration, indicating the range from the end of the 6th to the 1st half of the 4th century BC, can be considered a *terminus post quem* for the moment of the building of the fortifications.

The series of radiocarbon age measurements obtained for the Iron Age fortifications and the related contexts cited above is relatively consistent.

Primarily, the dates generally fall on the calibration curve beyond the Hallstatt plateau. The calibrations in the 1σ range demonstrate that the layers formed before the construction of the fortifications date back to the beginning of the 5th century BC at the earliest (the date from Maszkowice and the older date from Ostražica) or even to the middle of the 4th century BC (the younger samples from Ostražica). At the same time, the most probable dating range for the wooden framework of the Zabrzeż rampart covers the timespan 405–351 BC. Taking this into account, as well as observations on the similarity of the structure of fortifications and on some relations in terms of the pottery style, which will be discussed later in this article, we can conclude that in the 4th century BC, a phenomenon of establishing defensive settlements with stone-faced earthen ramparts occurred in the valleys of the Orava and Dunajec rivers.

III. LATE HALLSTATT – EARLY LA TÈNE PERIOD FORTIFICATIONS IN THE WESTERN CARPATHIANS – COMPARISON AND OVERVIEW

The relics of the fortifications described above share many common features. In all three situations, we can observe earthworks protecting the settlement or its selected part only from those sides from which it was most easily accessible. The rampart at Zabrzeż was built at the very beginning of the site's occupancy. At Nižná and Maszkowice, the fortifications mark the youngest phase of building activity, being founded on older levelling surfaces or cultural layers. On the first of these sites, the limited scope of field research does not allow us to determine the extent to which the stronghold is a continuation of the previous open settlement. At Maszkowice, however, there are indications of a possible discontinuation between the Late Bronze – Early Iron Age occupational phase and the phase represented by the Late Hallstatt period materials. This is suggested by distinct shifts in the layout of the village (Przybyła, Jędrysik 2017, 95–96, 98; Przybyła 2020) as well as by symptoms of intensified erosional processes that occurred before the construction of the stone pavements accompanying the fortifications on the edges of the plateau.

The best preserved and most thoroughly recognized ramparts at Nižná have interior and exterior facades made of small sandstone blocks, while the filling consists of clay and gravel. Elements of a wooden framework in the form of poles embedded in the ground are also well documented. At both sites in the Dunajec river valley, the outer parts of the earthworks are either not preserved or were not identified. In the inner parts, however, facades of

the clay embankments were found in the form of single rows of stones. At Zabrzeż, the shell is made – as at Nižná – of relatively small sandstone chunks. At Maszkowice, the stone blocks tend to be larger, but in this case, one should take into account the reuse of raw materials from the demolition of the Early Bronze Age fortifications. At the first of the above-mentioned sites, the presence of wooden structural elements that survived following the rampart fire was also confirmed.

The above-described constructions are analogous to the fortifications identified at several sites in Orava, which were defined by P. Čaplovič as the Hallstatt period strongholds (e.g. Vyšný Kubín, Tupá skala and Istebné, Hrádok; Čaplovič 1987, 109–160). At the same time, it is widely recognized that the construction of a timber-laced rampart with a stone facade and a wooden extension supported by poles conjoining the facade was common in the area of Slovakia from the end of the Early and especially in the Middle La Tène period (e.g. the site at Liptovská Mara; Pieta 1996). K. Pieta (1996) pointed out that in the Late La Tène period, probably under the Celtic influence, new solutions appeared in the technique of building fortifications: walls with inner and outer stone facades and elaborated gate constructions with additional reinforcements and towers. We suppose that the rampart structures recognized at the sites we have studied – with facades made of sandstones of standardized sizes, stacked without mortar – may already be related to the techniques used in the La Tène period. The prehistoric fortifications in the Liptov region have a similar design, e.g. at the hillforts Liptovská Mara, Havránok (Pieta 1996, 69–74) and Podtureň, Velínok (Hanuliak, Pieta 1976, 102; Laučík 2006, 24–28), that are dated to the Late La Tène period. Therefore, it seems that not only Ostražica but also some other defensive settlements in Orava known in the literature as the Hallstatt period strongholds could have been built later (e.g. Medzibrodie nad Oravou, Hrádok; *cf.* Čaplovič 1987, Pl. XLIII-XLV). Unfortunately, a significant part of the materials from these sites collected during older excavations has been lost or we do not know the exact circumstances of their discovery.

In relation to other parts of northern Slovakia, little is known about the technique of building fortifications from the end of the Hallstatt and the beginning of the La Tène period (*cf.* Fig. 12). Apart from the above-mentioned examples of younger settlements, sites of this type in Liptov were generally only surveyed (e.g. Sidorovo at Ružomberok, Predný Choč at Likavka, Mních at Bobrovec, Hrádok at Turík) – in the literature, the presence of preserved stone ramparts as well as blocks of sandstone and river pebbles lying in their vicinity is mentioned (Furman 2016; *cf.* e.g. Pieta 1983, Veliačik 1983). The

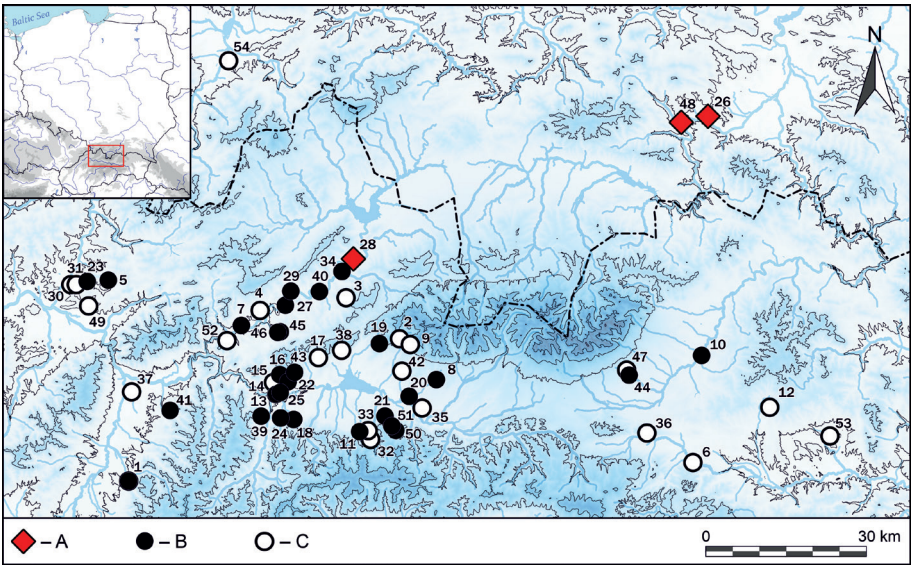

FIG. 12. Late Hallstatt – Early/Middle La Tène Period sites with remains of fortifications in the Western Carpathians. A – sites discussed in the article, B - Late Hallstatt – Early/Middle La Tène Period fortifications, C – supposed Late Hallstatt – Early/Middle La Tène Period fortifications (uncertain chronology). 1 – Blatnica, Plešovica, 2 – Bobrovec, Mních, 3 – Dolný Kubín-Mokraď, Homola, 4 – Dolný Kubín-Veľký Bysterec, Trniny, 5 – Horný Vadičov/Dolný Vadičov, Ladonhora, 6 – Hrabušice, Zelená hora, 7 – Istebné, Hrádok, 8 – Jakubovany, Vysoký hrádok, 9 – Jalovec, Hrádok, 10 – Kežmarok, Jeruzalemský vrch, 11 – Lazisko, Zvon, 12 – Levoča, Burk, 13 – Likavka/Ružomberok, Mních I, 14 – Likavka/Ružomberok, Mních II, 15 – Likavka, Likavský hrad, 16 – Likavka, Predný Choč, 17 – Liptovská Sielnica, Liptovský hrad, 18 – Liptovská Štiavnica, Lúčny Hríb, 19 – Liptovské Matiašovce, Nad Konislavou, 20 – Liptovský Mikuláš-Okoličné, Vrchhrádok, 21 – Liptovský Mikuláš-Ploštín, Rohačka, 22 – Lisková, Konislav, 23 – Lopušné Pažite, Malé Ostré, 24 – Ludrová, Stráňa, 25 – Martinček/Ružomberok, Mních III, 26 – Maszkowice, Góra Zyndrama, 27 – Medzibrodie nad Oravou, Hrádok, 28 – Nižná, Ostražica, 29 – Oravský Podzámok, Hradné bralo, 30 – Oškerda, Malý Vreteň, 31 – Oškerda, Veľký Vreteň, 32 – Pavčina Lehota/Demänovská Dolina, Na jame, 33 – Pavčina Lehota, Žiarec, 34 – Podbiel, Biela skala, 35 – Podtureň, Varta, 36 – Poprad-Kvetnica, Zámčisko, 37 – Priekopa pri Martine, Hrádok, 38 – Prosiek, Hrádok, 39 – Ružomberok, Sidorovo, 40 – Sedliacka Dubová, Ohrádza, 41 – Sklabinský Podzámok/Turčianska Štiavnička, Katova skala, 42 – Smrečany, Hrádok, 43 – Turík, Hrádok, 44 – Veľký Slavkov, Burich, 45 – Vyšný Kubín, Ostrá skala, 46 – Vyšný Kubín, Tupá skala, 47 – Vysoké Tatry/Starý Smokovec-Pod Lesom, Hradisko, 48 – Zabrzeż, Babia Góra, 49 – Zástranie, Veľký Straník, 50 – Závažná Poruba/Liptovský Ján, Il'anovská Poludnica, 51 – Závažná Poruba, Končistý vrch, 52 – Žaškov, Žaškovský šíp, 53 – Žehra, Spišský hrad, 54 – Żywiec, Góra Grojec (drawn by J.A. Markiewicz, B. Lofajová Danielová)

current research is also usually based on small test trenches and it rarely focuses on attempts to identify the construction of fortifications (*cf.* e.g. Benediková, Pieta 2018; Furman, Benediková, Šimková 2019). In the case of less numerous settlements of this type in the Spiš region, there are also often doubts as to the dating of the earthworks, which on the one hand result from the multicultural character of these sites, and on the other – from the fact that they were sometimes considerably damaged by medieval and modern building activity. In some cases, however, it was possible to confirm the presence of relics of timber-laced, stone and earth-based fortifications that, with some caution, can be attributed to the end of the Hallstatt or the La Tène period (e.g. Jeruzalemský vrch at Kežmarok, Burich at Vel'ký Slavkov; *cf.* Soják 2003, 143; Soják, Fecko 2015, 402–404).

As already mentioned, apart from the sites discussed in this article, fortifications dated to the Early Iron Age and the beginning of the La Tène period are practically unknown in the Polish Carpathian zone. It seems that such structures might have been destroyed by medieval buildings (*cf.* Poleski 2004). Such a scenario was observed i.a. on Grojec Hill at Żywiec, where the prehistoric cultural layers were disturbed in the process of the construction of a medieval castle (Gołąb 1985, Gołąb, Madyda-Legutko 2004). During the excavations carried out in the 1930s, traces of settlements from the Early Iron Age and the Late La Tène period were identified there. Importantly, in one of the trenches a relic of a rampart was discovered, which on the basis of the stratigraphic relations and the artefacts found in its layers was dated to the 4th–1st century BC (Sulimirski 1938, 210). Unfortunately, in the course of the subsequent research, it was impossible to verify either the chronology of this structure or even its presence. However, attention was drawn to the artificially shaped, terraced landform of the top part of Grojec that was associated with the Late La Tène (the Púchov culture) occupational phase (Gołąb 1985, 206).

IV. POTTERY – STYLISTIC FEATURES AND CHRONOLOGY

Cultural links between the areas in question in the Early La Tène period also manifest themselves in specific elements of the pottery style. In the collection of artefacts found in the earthwork layers at Ostražica, fragments of barrel-shaped pots and bowls predominate (Fig. 13: 5, 11). Sporadically, amphora-shaped vessels typical of the Orava group of the Lusatian culture of the Hallstatt and Early La Tène period appear (Čaplovič 1987, Fig. 76: 3; Lofajová

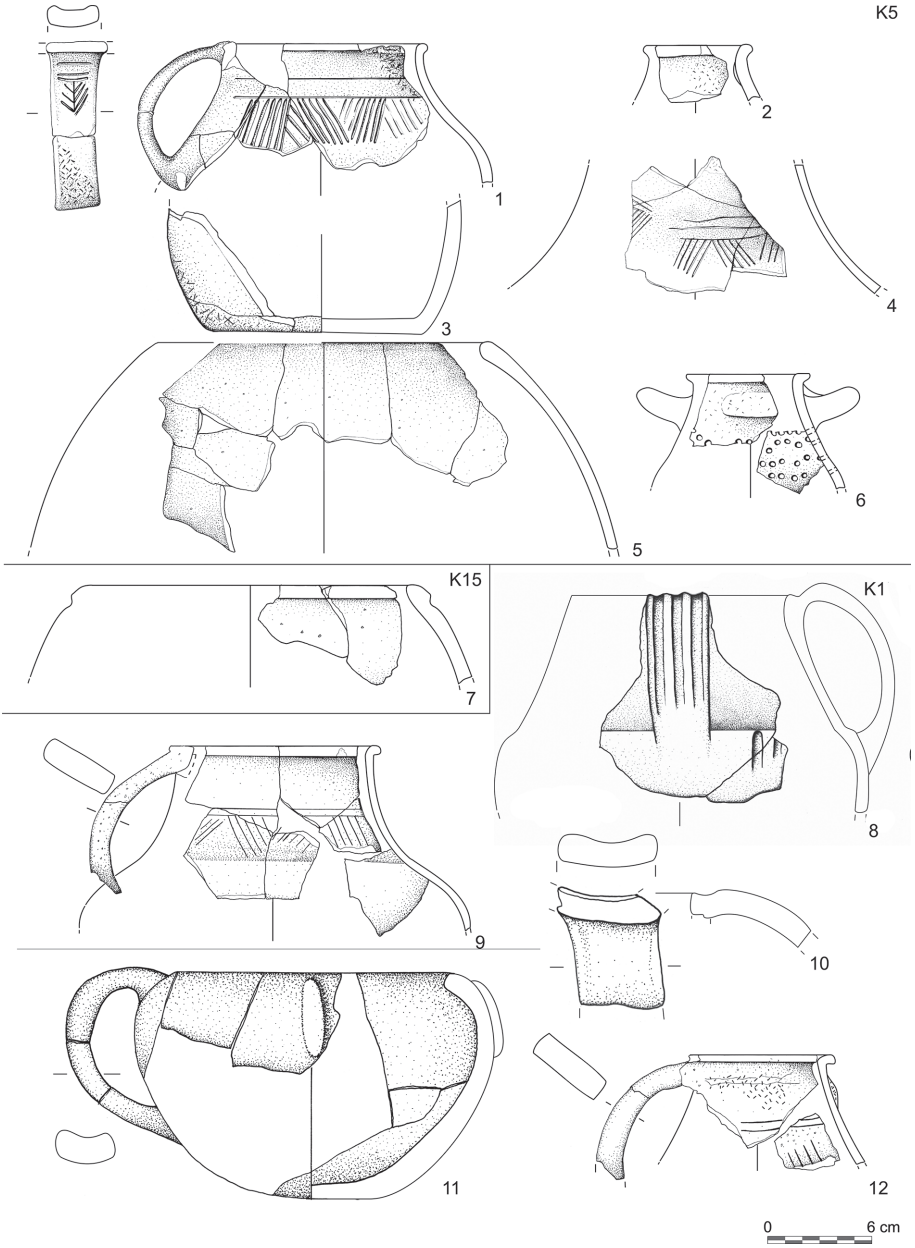

FIG. 13. Nižná, Ostražica. Pottery. 1-6 – the burnt layer/feature (K5); 7 – the cultural layer (K15); 8-12 – the gravel-clay embankment of the rampart (K1). Drawn by B. Lofajová Danielová

Danielová 2019, Pl. II: 1). However, essential in considering the chronology are thin-walled cups/jugs with polished surfaces, decorated with horizontal and diagonal engraved lines. Fragments of such vessels were deposited in both the filling of the rampart (K1; Fig. 13: 9, 12) and in the burnt layer below it (K5) in the trench 9/2019 (Fig. 13: 1, 4). Jugs and amphoras of this type are known from several sites in Orava (i.a. at Dolný Kubín, Trniny and Istebné, Hrádok; Čaplovič 1960, Fig. 8; Pl. VIII: 1–3; 1987, Fig. 85; Benediková 2004, Pl. I: 2, 5, VI: 6) and are included in the so-called "Hallstatt-La Tène" pottery (Čaplovič 1987, 109–155, 176–177). Similar ceramics was also discovered in Liptov, i.a. at Podtureň, Bašta (Hanuliak, Pieta 1976, Fig. 71; Hanuliak, Pieta 1977, Fig. 54) and Liptovská Mara II (Pieta 2008, Pl. 10). According to K. Pieta, these vessels are typical of the so-called Pre-Púchov stage, i.e. the period following the Orava group of the Lusatian culture and preceding the formation of the Púchov culture (Pieta 1982, 156–158, Fig. 10; 1996, 54; 2008, Pl. 10).

The Polish Carpathian zone in the period in question represents a different cultural phenomenon. Regarding the hilltop settlements in the Western Beskidy Mountains at the turn of the Hallstatt and the La Tène periods, the term Zabrzeż-Podegrodzie horizon is applied (Madyda-Legutko 1995). The materials from these sites are characterized by the presence of elements indicating multidirectional cultural connections, primarily with the areas of north-eastern Slovakia and the Carpathian Basin as well as the Upper Silesia – Lesser Poland and Tarnobrzeg groups of the Lusatian culture, and in a broader context – with the entire eastern part of Central Europe that was included within the sphere of the steppe cultures influence in the Early Iron Age (Madyda-Legutko 1995; Przybyła 2009, 247–248; *cf.* Dzięgielewski, Godlewski 2009). However, attention should be paid to the occurrence of singular artefacts referring to the stylistics of the Pre-Púchov stage, that has already been indicated in the literature, e.g. a fragment of a decorated jug from Maszkowice (Fig. 14: 6) and a spherical cup with a roller-shaped handle from Zabrzeż (Fig. 14: 1), discovered during M. Cabalska's research in the 1960s (Madyda-Legutko 1996, 30). The recent revision of the materials from the old excavations at Maszkowice resulted in the identification of a number of pottery sherds attributed to this style. These are mainly fragments of jugs and amphoras with high, conical necks, bulbous bodies, thickened rims and massive, band-shaped handles with raised edges or decorated with vertical grooves (Fig. 14: 3–9). With the same chronological horizon, a piece of a cup with protrusions on the top of the handle should be correlated (Fig. 14: 2; *cf.* Pieta 1982, Fig. 10: 59). It is worth noting that the majority of these artefacts

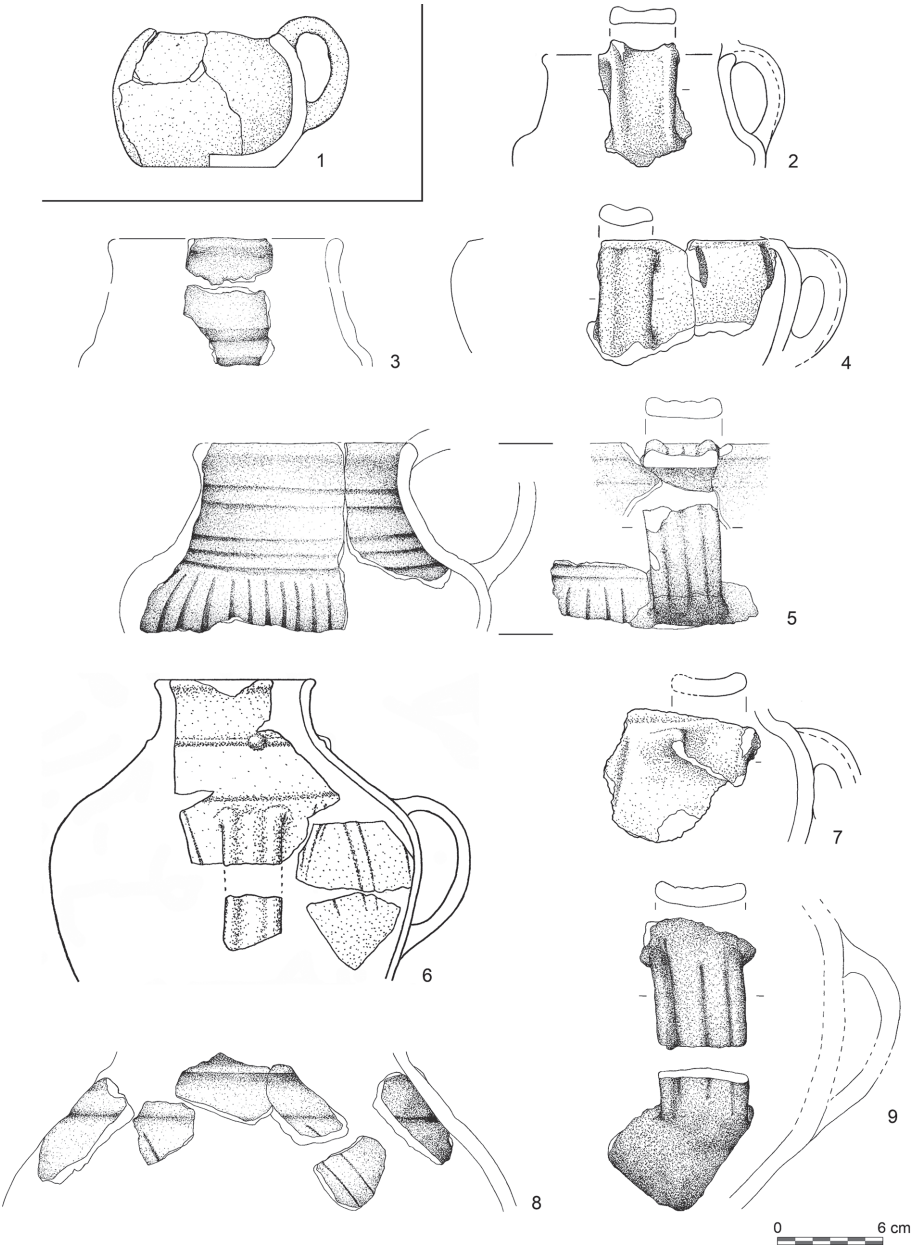

FIG. 14. Pre-Púchov phase pottery. 1 – Zabrzeż, Babia Góra, 2–9 – Maszkowice, Góra Zyndrama (1 – after Jędrysik *et al.* 2021; 6 – after Cabalska 1976b; 2–5, 7–9 – drawn by J. Ledwoń, J.A. Markiewicz)

were discovered in the trenches on the northern part of the plateau, i.e. where the remains of the fortifications in question were best preserved (e.g. Fig. 14: 2, 3, 6–9). At the same time, the highest concentration of pottery technologically typical of the La Tène occupational phase of this settlement was recorded on the inner foreground of the rampart excavated in 1967. Single characteristic sherds related to the discussed style were also found during the old and new field research in the area of the eastern edge of the plateau (e.g. Fig. 14: 4, 5). These vessels find evident analogies in the Pre-Púchov materials from Orava and Liptov (*cf.* e.g. Pieta 1982, Pl. XXII: 6–10, Pl. XXV: 4; Benediková 2004, Pl. I: 2, 5, Pl. VI: 1, 3, 4, 6, Pl. VIII: 1–3), although, at the same time, they show some individual features in terms of decoration and tectonics (rarer engraved ornaments, the presence of horizontal cordons on the necks, high-profiled bodies and handles fixed under the base of the neck). Apart from the sites discussed in this article, essentially no finds of pottery referring to this style are known from the Polish Carpathian zone. Perhaps the fragments of massive handles from the settlement on Grojec at Żywiec belonged to vessels of this type (Gołąb, Madyda-Legutko 2004, Fig. 3: 5, 10: 1).

V. CHRONOLOGY OF THE "HALLSTATT" HILLFORTS IN THE WESTERN CARPATHIANS – DISCUSSION

As shown above, the fortifications at the three sites in question were probably built around the 4th century BC and they are culturally related to the Pre-Púchov stage. This period in northern Slovakian archaeology was distinguished by K. Pieta (1982) on the basis of materials from the Liptovská Mara II site. In the current approach, the Pre-Púchov stage covers the time interval between the Early and Middle La Tène period (La Tène B1/B2–C1; ca. 330/320–175/165 BC) and it is understood as a continuation of the Orava group of the Lusatian culture after the abandonment of the Hallstatt strongholds in Liptov and Orava. In this system, the La Tène C2 phase (175/165–125/115 BC) encompasses the first stage of the Púchov culture (Pieta 1982, 156–158; 2008, 32–34, 58). So far, some data on the absolute chronology of this period have been provided by only a few unpublished radiocarbon dates from two sites in Liptov that mark the moment of the destruction of the Hallstatt period hillforts and the final phase of the Pre-Púchov settlements. Based on Bayesian modelling, it was demonstrated that, according to the most probable scenario, the upland defensive settlements fell in the second half of the 5th

century BC, and the upper border of the Pre-Púchov stage should be placed in the second half of the 3rd century BC or at the beginning of the next century (Benediková 2006, 186–188). This dating matches the currently accepted absolute chronology of the La Tène period (*cf.* Brandt 2001, 66–67; Trachsel 2004, 318–320; Venclová *et al.* 2008, Table 1). The radiocarbon age measurements from the sites discussed in this article also fit well in this chronological framework.

According to the model proposed by K. Pieta (1982, 150–158), at the beginning of the La Téne period, the Orava group of the Lusatian culture continued to develop in Liptov, Turiec (Pieta 2014, 146–147, 149) and Orava, preserving the traditions of the Hallstatt period. A characteristic feature of the cultural landscape of the time was the presence of numerous hilltop strongholds (Pieta 1983; Čaplovič 1987). At the beginning of the La Tène period, probably as a result of invasion or unspecified impact of foreign ethnic or cultural groups, the existing settlement structures were supposed to have collapsed, something which is reflected in the horizon of destruction discernible in the Liptov hillforts (Pieta 1983). After this period, starting from the La Tène B2 phase, it was thought that there was a reorganization of the settlement correlated with the abandonment of the "Hallstatt" sites and the establishment of new ones already belonging to the Pre-Púchov stage, although clearly continuing local traditions with little influence of La Tène cultural environment. A similar process was to be observed in Orava (Čaplovič 1987, 160–161, 180).

Referring to the above model, some researchers have highlighted the problem of the alleged hiatus between the collapse of the Hallstatt strongholds and the emergence of new settlement structures, which would cover a period of at least 100 years and be in contradiction with the undoubted cultural continuation (Benediková 2006, 190–196). In his more recent works, K. Pieta has spoken more cautiously about the causes and precise dating for the abandonment of the fortified settlements in Liptov and Orava, noting that the chronologically diagnostic artefacts from these sites come from uncertain contexts (Pieta 2000, 333). At the same time, he suggested shifting the discussed caesura to the La Tène B1 phase, after which new settlements would be established soon – already at the end of the same phase or at the very beginning of the La Tène B2 phase. However, he upheld the thesis about the discontinuation of the settlement between the "Hallstatt" and the Pre-Púchov phases (Pieta 2000, 340; 2008, 32–34; *cf.* Benediková, Pieta 2020, 399).

It seems that in light of the latest research, this issue should also be verified. Regarding the "Hallstatt" hillforts in Orava, the presence of both vessels

typical of the Hallstatt period, as well as those associated with the Pre-Púchov stage, was already indicated (Benediková 2004; 2006). The findings concerning the Ostražica stronghold presented above confirm these observations – as it has been shown, this settlement, inhabited already in the Hallstatt period, in the 4th century BC was surrounded by the rampart of construction typical of the La Tène period. This fact probably provides evidence of a cultural and settlement continuity in the considered time range, which may contradict the radical changes that were meant to have occurred at the beginning of the La Tène period that were postulated earlier. At the same time, as suggested recently by K. Pieta, the radiocarbon dates obtained from the layers from which the vessels typical of the Pre-Púchov stage originate, confirm the slightly sooner beginnings of this stage, that would already fall on the end of the La Tène B1 or the turn of the La Tène B1/B2 phases.

Different questions arise with regard to the Polish part of the Western Carpathians. The Early and Middle La Tène period in the Western Beskidy Mountains is poorly recognized. As already mentioned, at the end of the Hallstatt and the beginning of the La Tène period (Hallstatt D – La Tène A), a network of hilltop settlements functioned there. Known as the Zabrzeż-Podegrodzie horizon, they were culturally related to the eastern part of Central Europe (Madyda-Legutko 1995). Importantly, at many of these sites (Marcinkowice, Maszkowice, Podegrodzie, Zabrzeż, Żywiec-Grojec), materials of the Púchov culture also appear, although they are relatively few and their stratigraphic relations with the Late Hallstatt relics are unclear (Madyda-Legutko 1995; Gołąb, Madyda-Legutko 2004; Jędrysik *et al.* 2021). According to the latest findings, the development of the Púchov culture in this zone occurred in the La Tène C2–D1/D2 phases (Madyda-Legutko, Tunia 2015). Thus far, it had been impossible to determine whether the Early Iron Age cultural model could have survived here until the Middle La Tène period, although it was thought that the Zabrzeż-Podegrodzie horizon settlements were abandoned before the arrival of the population of the Púchov culture from northern Slovakia (Madyda-Legutko 1995, 259–260; 1996, 21–22).

The findings concerning the chronology and cultural character of the fortifications at Zabrzeż and Maszkowice presented in this article constitute a substantial contribution to this discussion. First of all, they confirm that the settlements of the Late Hallstatt period tradition still functioned in the 4th century BC (the La Tène B phase). Therefore, these sites partially fill the gap in the local chronology and can be considered as a significant argument supporting the hypothesis that the cultural development in the Western Beskidy

Mountains during the La Tène period proceeded in a similar rhythm to that in northern Slovakia. It is possible that this is evidence of the survival of the local population of the Zabrzeż-Podegrodzie horizon until the development of the Púchov culture in the Middle La Tène period. At the same time, these remarks can be treated as a contribution to the research on the broader problem of dating the youngest sites of the Early Iron Age cultural tradition in the Polish Carpathians.

The character of the fortifications themselves should be considered separately. As we have shown above, the ramparts at the sites Ostražica at Nižná, Babia Góra at Zabrzeż and Góra Zyndrama at Maszkowice were built around the 4th century BC, they are characterized by specific construction techniques and show some cultural associations with the Pre-Púchov stage. It should be remembered that the stronghold at Zabrzeż was established in a previously uninhabited location, while in the case of the site at Maszkowice it seems possible that the moment of construction of the rampart was preceded by an occupational hiatus. Therefore, the fortifications discussed in this paper should be perceived as a manifestation of a separate cultural phenomenon – the horizon of defensive settlements falling in the La Tène B period and closely related to the northern Slovakian cultural environment.

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