

# The Golden Pendant from Sadská - an Early Byzantine Import?

## Abstract

The golden (80–83 % Au, 19.16–19.93 carats) three-sided pendant, decorated with granulation and filigree work of Early Byzantine origin, was found in 2022 at Sadská (okr. Nymburk/CZ) in the newly discovered Early Medieval settlement with finds mainly from the 8<sup>th</sup> century. The pendant consists of 13 main components, 5 filigree wires (3 round-sectioned, 2 beaded) and 174 granules; XRF and SEM/EDS analyses were performed on different components and solder areas. The seams and solder areas are clearly visible, so the manufacture of the pendant can be described in detail. It was most likely a pendant from an earring with a little pyramid pendant of the Deszk type. The best analogies can be found in graves from the second half of the 7<sup>th</sup> century from the southeast of the Carpathian Basin and also in graves from the southeast of Ukraine and the Caucasus region, dated from the 6<sup>th</sup> century. The pendants are, however, a bit bigger. In terms of the continuity between Late Roman and Byzantine products, Late Roman import cannot be ruled out, although dating to the second half of the 6<sup>th</sup> and mainly the 7<sup>th</sup> century is more plausible. The pendant represents one of three cases of golden imported finds in Bohemia from the late 6<sup>th</sup> and 7<sup>th</sup> centuries.

## Keywords

Bohemia / Byzantine gold earring / granulation / manufacturing / import

The Middle Bohemian site Sadská (okr. Nymburk/CZ) was not known until now in the literature for the Migration Period and the Early Middle Ages. It lies to the west of the village Sadská and northwards from Třebestovice (**fig. 1a-c**), on the field »Za Kapličkou« southwards from the roads »Poděbradská« and »Pražská« that lead across Kersko, eastwards from the Kersko forest. It lies between 180 and 188 MAMSL, and the closest stream is the Smradlák brook. It is surrounded by the fertile Elbeland (Polabí – the lowland along the Elbe river). The area is

ideal for farming, which is why it was intensively settled both in prehistory and in the Early Middle Ages. Regarding the cumulations of finds, it likely belongs to the area's east side close to find no. 6 (cast strap-end of the Avar type from the 8<sup>th</sup> c.).

The systematical survey using metal detectors in 2019–2022 on this area uncovered finds from the Late Avar Period (8<sup>th</sup> c., 12 pieces; **fig. 1c**), a bronze circular weight (Roman Empire Period or Early Middle Ages), a bronze tool with a pike for delicate work, a bronze ring without precise dating, and other finds

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**Fig. 1** Sadská: **a** location of the site in Bohemia. – **b** three Early Medieval settlement areas: **A** »V Olšínách«; **B** »Za Kapličkou« with the pendant, both mostly 8<sup>th</sup> c./beginning 9<sup>th</sup> c.; **C** prince's residence from the 11<sup>th</sup>–12<sup>th</sup> c. inside the village (1 gold pendant; 2 Late Avar type of fitting; 3 wider dated metal finds; 4 nucleus area of the settlements). – **c** detail from site 1b: location of the pendant and later Early Middle Age decorations (**a** Late Avar type of fitting; **b** wider dated metal finds; **c** position of the gold pendant). – (a image N. Profantová; b image J. Hasil; c image K. Levá).

**a** (Profantová/Hasil et al. in print). In total, 31 bronze finds were gathered from two locations (fig. 1b-c). Finds from the Roman Empire Period and the beginning of the Early Middle Ages were also discovered in the location »V Olšínách« around 900 m north of the researched location (unpublished) in the northern part of a cadaster, one archaeological feature (Roman Empire Period) also in distance about 600 m from our site.

In this paper, we will focus on the most significant find – the golden pendant from the earring found in May 2022 by K. Novotný, a collaborator of the Ústav archeologické památkové péče středních Čech (Prague) and the Institute of Archaeology of the Czech Academy of Sciences (Prague)<sup>1</sup>.

## Description of the Item and the Steps of Manufacture

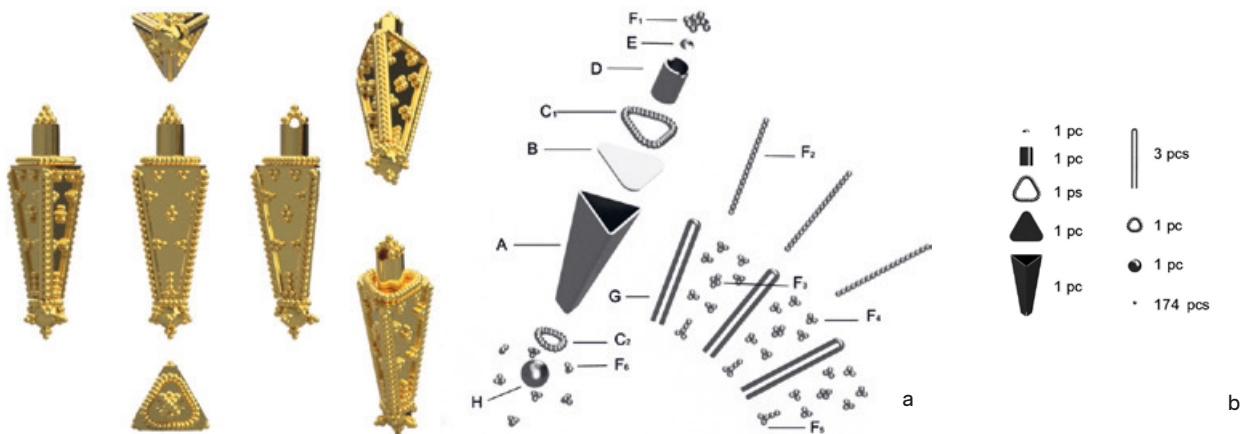
The golden three-sided pendant is made from several parts joined together as shown in the technical drawing (figs 2; 3a-b). The body of the pendant is made from a folded sheet forming a hollow triangle of decreasing section (fig. 3a, A). It is topped on the upper side by a triangular sheet (fig. 3a, B) with round corners, decorated by a beaded wire (figs 3a, C<sub>1</sub>; 4b. f). A beaded wire (fig. 3, C<sub>2</sub>) is also soldered on the lower part of the triangle. The suspension system is made from a rolled sheet forming a cylinder (figs 3a, D; 5c), soldered on the upper plate. The cylinder is covered by a hemisphere (fig. 3a, E), decorated with granules (fig. 3a, F<sub>1</sub>), massed in a three-level pyramid (fig. 4b. d). A small sphere (fig. 3a, H) sitting in a beaded wire ring (fig. 3a, C<sub>2</sub>) is soldered on the lower base of the triangle body. The pendant is decorated with granulation work (figs 3a; 4a). The triangular body is decorated on each side with four granules massed into a lozenge (fig. 3a, F<sub>4</sub>), surrounded by granules massed in small triangles (fig. 3a, F<sub>3</sub>). A perpendicular motif is placed on the lower part (fig. 3a, F<sub>5</sub>). The angles of the body are ornamented by a double round sectioned wire, in the middle of which a line of granules is soldered (figs 3a, F<sub>2</sub>; 4c. g). The sphere (fig. 3a, H) is decorated with granules massed in small pyramids (fig. 3a, F<sub>6</sub>) (for the making of the wire, see e. g.: Ungerman 2021, fig. 15).

The cylindrical protrusion above the upper base was perforated (fig. 4b. d). The hole is not fully regular. It was clearly expanded by use. Other signs of

**1** N. Profantová thanks with all her heart. The pendant is in the Institute of Archaeology of the Czech Academy of Sciences (Prague) and will be handed over to the National Museum Prague with the other finds.



**Fig. 2** Sadská. Photos of the pendant (a-d). – (Photos K. Novotný). – a–b, d scale 2,5:1; c scale 1:3.



**Fig. 3** The pendant from Sadská: a different views of the pendant and technical drawing of all components used in the production of the pendant. – b the number of all components. – (Image and photos L. Barčáková). – Scale 1,5:1.

wear are visible on a line of granules (fig. 4c). These granules seem to have been filed, perhaps to check if the pendant was a true solid gold artefact or if it was gilded.

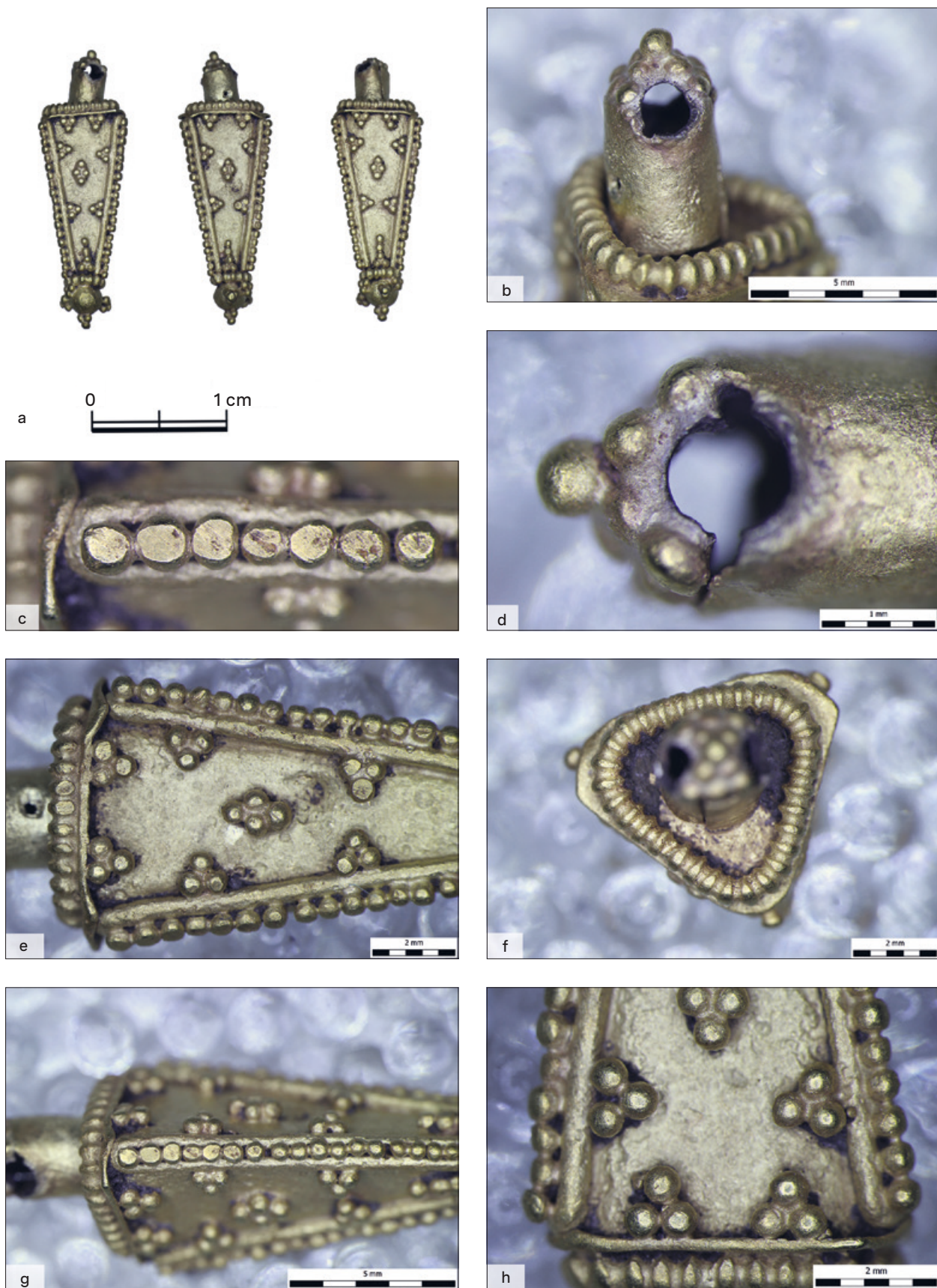
A defect (part of the sheet has melted and a hole is visible) related to the soldering process is visible on the suspension system (fig. 4b).

The solder areas are clearly visible on the object. The seam of the beaded wire is visible on figure 5a.

Connection areas between the granules massed in a big pyramid and the cylinder forming the suspension system are visible on figures 5c and 5d. A small pyramid of granules decorating the lower sphere has fallen off, revealing the solder area underneath (fig. 5e).

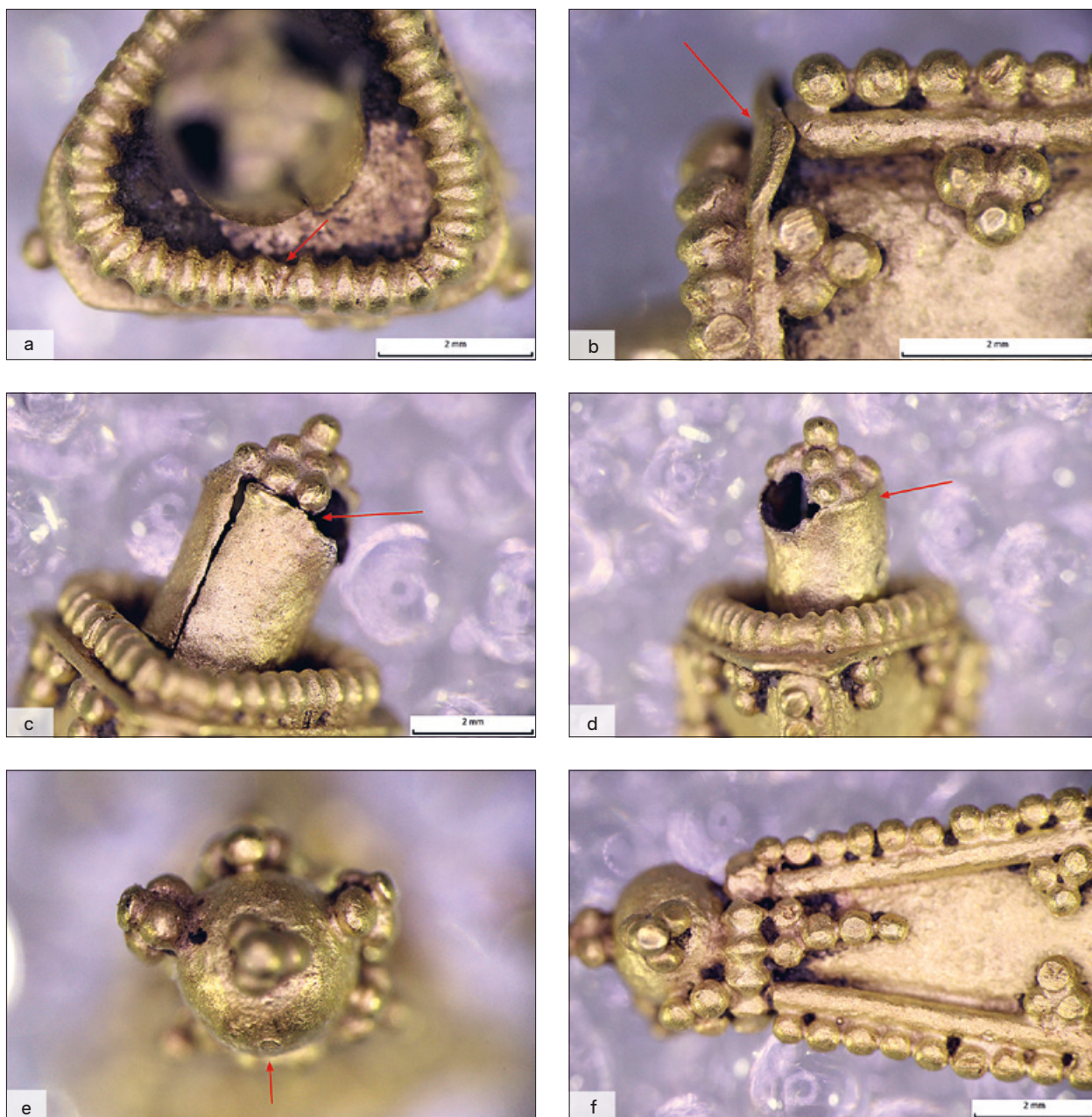
As a whole, the pendant consists of 13 main components, 5 filigree wires (3 round-sectioned, 2 beaded) and 174 granules (fig. 3a-b). The production pro-





**Fig. 4** General description of the pendant from Sadská: **a** view of the three sides of the pendant. – **b** detail of the suspension system and the defect on the side. – **c** filed lines of the granules. – **d** wear of the suspension system. – **e** detail of the granulation work. – **f** view of the beaded wire decorating the top base. – **g** side view of the pendant showing the line of the granules. – **h** detail of the granulation work massed in triangles. – (Photos E. Ottenwelter).





**Fig. 5** The pendant from Sadská: details of the seams, views on the decorative elements (a-f). – **a** the seam of the filigree is practically indistinguishable (arrow). – **b** bended plate on the edge and a seam (without soldier). – **c** the seam and detail of the granules on the top. – **d** detail of the upper seam from the other side. – **e** solder area under fallen granules. – **f** detail of the filigree wire topped by granules. – (Microphotos L. Barčáková).

cess must have been demanding in both time and skill. The production of granulated jewels is well described for the Great Moravia region, more precisely for Břeclav-Pohansko (CZ) in the 9<sup>th</sup> century by P. Čáp et al. (2011); the process is also on YouTube: »Granulation in Jewelry: Creating Granules from Start to Finish«; <https://youtu.be/UNAXEpGuvd-Q?si=FNvNg8q-IXqYzIwv> (7.1.2025).

The pendant is of excellent quality and its plasticity is expressive. Its height is 20 mm and its weight is 1.29 g (fig. 2).

The item was found on 1.5.2022, its precise location was 50.1318233 N, 14.9626270 E.

The 3D model of the pendant was also created: <https://sketchfab.com/3d-models/romano-byzantine-gold-pendant-d458257442744e01b4e89d-4021178cae> (3.12.2024).

measure no.	Sn	Ag	Pb	Au	Cu	Fe
1	0.22	13.66	0.00	82.99	2.85	0.24
2	0.86	16.34	0.05	79.86	2.57	0.22
3	0.25	14.63	0.00	81.77	3.04	0.27

**Tab. 1** Sadská. Results of the analysis of the pendant on the hand spectrometer [hm %] NITON XL3t 980 GOLDD. It was measured by J. Hošek. The first measurement is equal to 19.93 carats, the second one to 19.62 carats and the lowest one to 19.16 carats.

## The Fineness of the Pendant's Gold and Details of its Making

The fineness of the gold was first investigated by XRF analysis and determined by J. Hošek on the body of the pendant, on two of its sides and on the cylindrical protrusion below the hole. The pendant consists of an alloy of gold and silver (13.7–16.3 %) with a copper admixture (2.6–3 %) and traces of tin (0.2–0.86 %). The fineness of the gold is high on the surface, it ranges between 79.86 and 83 % (cf. **tab. 1**), which is more than 19 carats. In Bohemia, such a level of fineness is also achieved by the Carolingian medallion from Želénky (okr. Teplice/CZ) and the horseshoe-shaped amulet from Kolín (CZ) – both imports<sup>2</sup> from the 9<sup>th</sup> century (Profantová/Frána 2003, **tab. 2**). In Moravia, there are more such jewels.

A more detailed observation and characterization of the materials and the soldering technique used was carried out using a scanning electron microscope with energy-dispersive X-ray spectrometry (SEM/EDS), operated by J. Čupera at Brno University of Technology. The analyses was performed on sub-surfaces that had been previously observed and prepared to avoid any bias linked to the enrichment of gold on the surface of each type of component and soldering area. The results obtained with SEM/EDS are similar to those obtained with XRF. Ternary alloys of Au-Ag-Cu with an average content of 81 %wt Au, 14.9 %wt Ag and 4.1 %wt Cu were used

to manufacture the different components of the pendants (see **tab. 2**). The use of hard solders was further evidenced. Observation at high magnification has evidenced the presence of unmelted patches of solder on the surface of the artefacts (**fig. 6a, c-f**). These patches have different aspects. Some are partly melted (**fig. 6a**), others are completely melted but did not diffuse on the substrate and have a spherical shape (**fig. 6c-e**), and finally observation at high magnification has revealed the presence of half-melted fillings of hard solder on the surface (**fig. 6f, h**), suggesting that the hard solder could have been applied here as fillings.

The analyses have shown that hard solders with different compositions were used to produce the pendant (see **tab. 2**). They have either a significant amount of copper (from 18 up to almost 20 %wt) or a higher percentage of silver (up to 23.4 %wt).

Solder areas are clearly visible. The granulation work appears to be clearly flooded in some places, in particular on the top pyramide (**fig. 6g**), but also on the line of granules between the round sectioned wires (**fig. 6e**). They are also visible by their color, which differs sharply from the substrate. Hard solder with a higher concentration of silver has a silvery color (**fig. 6b, g**), whereas the hard solder with a high concentration of copper has a reddish color.

## Analyses of the Chronological-Cultural Context

The pendant is of excellent quality and belongs unequivocally to the Late Roman (Ostrogothian Circle) or even more likely to the Early Byzantine imports. It could have been a pendant of an earring or a stand-alone pendant (cf. **fig. 8, 9**: pendant from the Metropolitan Museum of Art, New York; 2<sup>nd</sup> half of the 2<sup>nd</sup> – 3<sup>rd</sup> c.; inv. no. I7.I92.I67; hang under a larger crystal pearl so that the pendant was not dominant).

For understandable reasons, there are no analogies in Bohemia.

Analogies can be found in the graves from the Carpathian Basin and also in the catalogues of exhibitions dedicated to Byzantium, where granulation was used on earrings, pendants – including crosses, rings, and so on (e. g. Chardaev 2010, 317 no. 427; Garam 2001, pls 13, 5; 15; 16; I; XXIV).

<sup>2</sup> Other golden jewels have a lower fineness – between 60 and 70 % –, and other jewels (earrings, gombiks) from Želénky and decorations from Prague have an even lower fineness.

Sadská pendant	surface	sub-surface	chemical composition [wt%]		
			Au	Ag	Cu
body sheet A		×	82.5	13.8	3.7
body sheet A		×	81	14.9	4.1
top plate B		×	79.9	17.5	2.6
beaded wire C <sub>1</sub>		×	80.5	16.3	3.2
beaded wire C <sub>1</sub>		×	79.6	17	3.4
suspension system sheet D		×	79.3	14.4	6.3
big granule H		×	81.6	13.5	4.9
plain wire G		×	81.9	14.3	3.8
granule F <sub>3</sub>		×	80.4	14.3	5.3
granule F <sub>3</sub>		×	81.3	14.4	4.3
granule F <sub>2</sub>		×	79.3	15.3	5.4
granule F <sub>6</sub>		×	84.9	12.9	2.2
<b>average</b>			<b>81</b>	<b>14.9</b>	<b>4.1</b>
<b>solder</b>					
solder area between granules		×	71.9	9.8	18.3
solder area under granules, reddish color	×		71.4	8.8	19.8
solder area between granules, susp.	×		70.7	23.4	5.9
solder, unmelted patch		×	78.2	10.2	11.6
solder, unmelted patch		×	78	11.1	11
solder, unmelted patch		×	77.7	10.2	12.1
solder area, suspension system		×	41.4	53.3	5.3

**Tab. 2** Chemical composition of the components and solder areas of the Sadská pendant. EDS semi-quantitative surface analysis on SEM (normalized wt% – carbon not considered).

The chronological interval remains wide – at least from the 3<sup>rd</sup> century, most plausibly from the turn of the 4<sup>th</sup>/5<sup>th</sup> century to the turn of the 7<sup>th</sup>/8<sup>th</sup> century.

Granulation was commonly used in the Roman Empire Period (Kolník 1984, figs 158, 161), then in Byzantium (including Italy and far-away Georgia [Europe]), but also in Persia and the east (cf. Garam 2001; Bálint 1992). In Middle Europe beyond the Roman border (*Limes*), granulation »appeared« in the Migration Period; however, in Pannonia and other centres, it could have remained continuously. In Bohemia, even during the Migration Period, the filigree technique was more common than the cloisonné technique – even the rich golden necklace from Úherce (okr. Louny/CZ) used beaded wire instead of real granulation work (Jiřík et al. 2015, 152–153 with fig.).

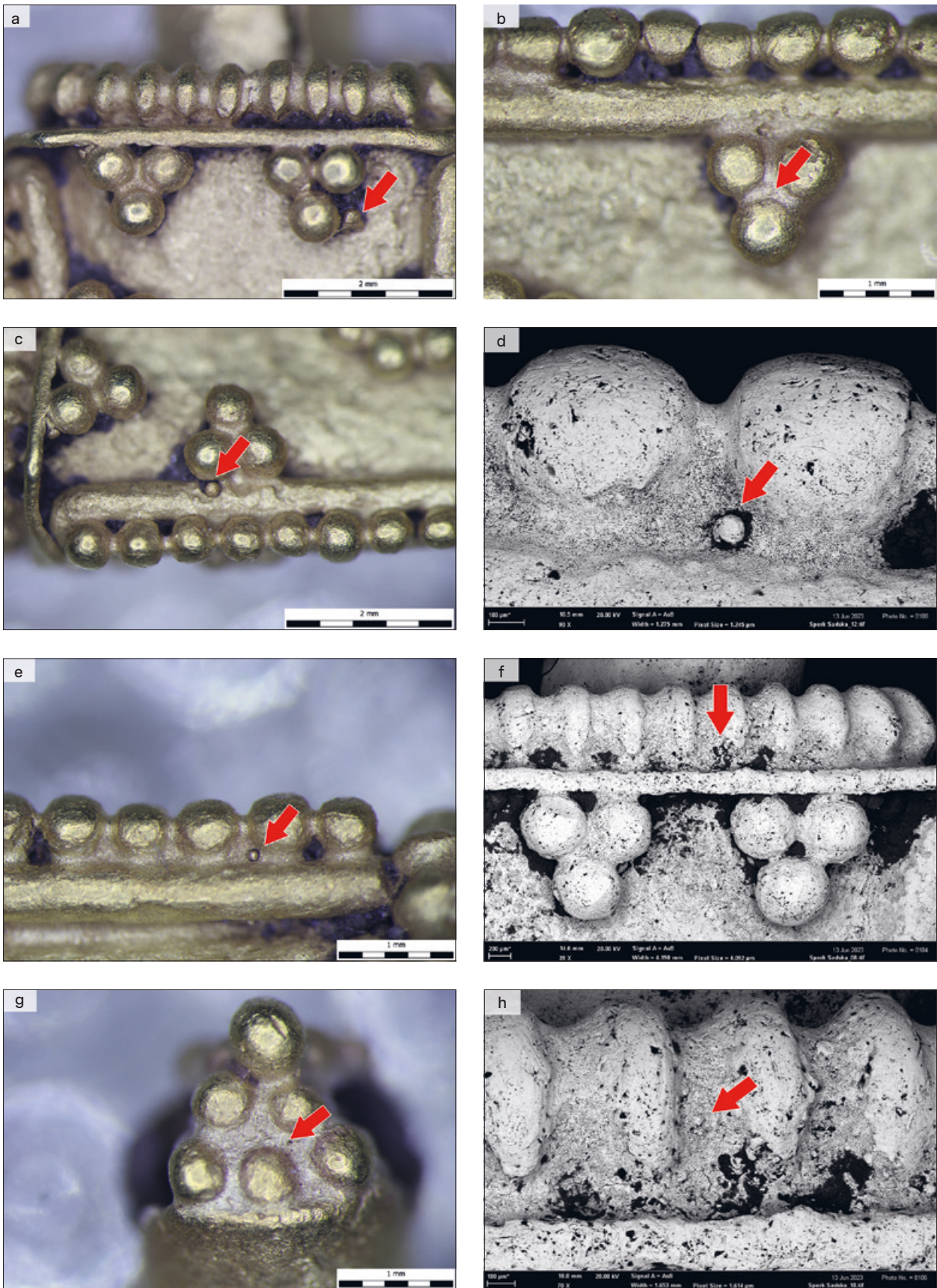
We therefore include preliminarily the Migration Period in the analysis with an emphasis on the 6<sup>th</sup> and 7<sup>th</sup> centuries – the earliest Early Middle Ages in the framework used in Bohemia, but the Migration Period in Hungarian archaeology, for example.

The authors will use several examples focusing on specific details. The closest to its ending is a pendant from the Metropolitan Museum of Art, New York, from the second half of the 2<sup>nd</sup> or the 3<sup>rd</sup> century, that is, however, decorated with filigree instead of granulation on the sides (fig. 8, 9). A collar with three polygonal gilded silver pendants from Asia Minor from the 5<sup>th</sup> century shows a similar jewellery design – its pendants are 30 mm high, so just a little bigger than ours (Daim 2010, 180 and fig.).

The three-sided Early Byzantine pendant with granulated grapes at the end comes from Greece, but the granulation fully covers the sides (<https://www.searchculture.gr/aggregator/edm/TA-PA/000054-II63I-I5248?language=en> [3.12.2024]). This pendant is not precisely dated (5<sup>th</sup>–7<sup>th</sup> c.).

The most common use of such pendants can be observed on earrings – from the 6<sup>th</sup> century up to the first half of the 7<sup>th</sup> century, eventually on necklaces. As early as 1956, Z. Vinski showed the continuity of products from Antiquity to the Early Byzantine





**Fig. 6** The pendant from Sadská: soldering. – **a** the partly melted lump of the hard solder. – **b** the solder area between the granules. – **c–e** the patch of the hard solder having formed a sphere but not having fused with the substrate. – **f–h** the partly melted fillings of the hard solder. – **g** the solder area between the granules forming a pyramid on the suspension system. Note the silvery color of the solder which reveals a high percentage of silver in the hard solder. – (Photos E. Ottenwelter; micrographs J. Čupera).



**Fig. 7** Majdan (Moravički okr./RS), earring; A Móra Ferenc Múzeum Szeged, inv. no. P 6939439; 47 mm high. – (Photo A Móra Ferenc Múzeum Szeged).



Period – from the 4<sup>th</sup> century to the 6<sup>th</sup> century – in the Balkans (Vinski 1956, tabs I–VII)<sup>3</sup>. Other examples with color photos are listed by Cs. Balogh; she also took over the depiction of casting molds/dies for cast pieces from Skybyntsi/Skibintsy (Vinnitskaja obl./UA) in the Eastern Europe (Balogh 2014, fig. 1, 9).

Another pyramid-shaped pendant for earrings is dated to the 7<sup>th</sup> century, it has a taller cylindrical loop with a granulated eyelet at the end and is also 20 mm high. The pendant is closed (see no. 204 at: <https://ancienttouch.com/medieval,%20byzantine%20jewelry.htm> [1.6.2022]). The oldest pendant with such a cylindrical protrusion is supposed to be from the 4<sup>th</sup>–6<sup>th</sup> centuries from Byzantium (Balogh 2014, fig. 1, 8) and is decorated with full-surface granulation.

The detail of the protrusion from the centre of the upper base, with a drilled eyelet for attachment to a ring, can also be seen in the golden decorations of the 6<sup>th</sup> and 7<sup>th</sup> centuries. It appears on a group of items consisting of three-sided pyramid-shaped pendants of earrings from the 6<sup>th</sup> century and the first two thirds of the 7<sup>th</sup> century – the pyramid is always hung with the apex pointing downwards, as in our pendant. The earrings had spread from the Caucasus Mountains in the east to the Carpathian Basin<sup>4</sup> (including Transylvania) and even to the Balkans in the south: e. g. Velika Kladuša (ct. Una-Sana/BA; Dugonjić/Rapan Papeša 2019, 92), or Majdan (Moravički okr./RS) (figs 7; 8, 6; Mrkobrad 1980, tab. LXXI, 5) – this pendant is however massive, 47 mm in height with a bigger bottom ball

(cf. tab. 3)<sup>5</sup>, and we already mentioned the area of Greece F. Ex. Ciprus. Relatively more numerous are earrings with three-sided pendants in the south of Ukraine. The wide geographical distribution is typical for Byzantine decoration, and there is also a theory of travelling goldsmiths for the Balkans and the Carpathian Basin in the 6<sup>th</sup> and 7<sup>th</sup> centuries (with objections Rácz 2013). The earrings are also documented in hoards/treasures with finds of Byzantine origin or in wealthy graves, some of them are in museums without context.

## Eastern Europe

Safely dated is grave 360 from Klin-Yar (near the Caucasus Mountains; Stavropol/RU) with the golden belt fitting and also the golden fitting of the sword hanger, in which also classical earrings were found with pyramid-shaped three-sided pendants with a big granule at the bottom and a trio of granules as a connecting link, this pendant is also completely covered with granulation (Belinskij/Härke 2018, fig. 126 pl. 5, 6). Even in this case, earrings have a cylindrical protrusion that connects them to the ring of the earring. The grave is without doubt from the 7<sup>th</sup> century and it is a tomb of a local ruler. A much closer analogy, however, comes from grave 345 in the same burial ground (Klin Yar III), where another pendant with granulated edges, a big lower sphere and, most importantly, tiny granulation forming a circle and a triangle on each of its triangular sides

<sup>3</sup> Unfortunately, where there is an older listing of such earrings, some of the depictions are of very poor quality.

<sup>4</sup> In this area, however, the pieces without granulation are predominant, but even these have the cylindrical protrusion in the middle with an eyelet (Garam 2001, pl. 10).

<sup>5</sup> The earring has the classical central protrusion and all its edges are decorated with strips of rather tiny granulation, inside there is a big granulated triangle, and closer to its angles there are little triangles consisting of three granules – which makes it more similar to our find. Majdan lies close to the border with Hungary in today's Serbia.



**Fig. 8** Sadská and variants of analogies: **1** Sadská (CZ). – **2** southern Ukraine. – **3** Kamunta (UA). – **4** Hungary, unknown site. – **5** Glodossy (UA). – **6** Majdan (RS). – **7** Deszk D, grave 170 (HU). – **8** Transylvania (RO). – **9** Metropolitan Museum of Art, New York. – **10** Kiskőrös-Pohibúj-Mackó-dűlő, grave 8 (HU). – **11** Gols-Wiesenäcker (AT). – **12** Jevičko (CZ). – 1–9 silver; 10–12 bronze. – (1 drawing L. Raslová; 2 after Prichodjuk 2001, photo 15; 3, 5 after Bálint 1989, fig. 4, 38, 1; 4, 10 after Balogh 2014, tabs 6, 2; 2, 4; 6 after Hampel 1905, vol. II, fig. 947 and Lőrinczy 1998, fig. 13; 7 after Balogh 2014, tab. 7, 1; 8 after Arslan/Buora 2000, cat. no. II; 9 Metropolitan Museum of Art, New York, inv. no. 17.192.167, <https://www.metmuseum.org/art/collection/search/465227>, Met's Open Access; 11–12 after Vích et al. 2021, fig. 16, 4.1).

was found. Another granulated circle surrounds the cylindrical protrusion on the upper base and in each corner of the base are tiny granulated pyramids (Belinskij/Härke 2018, 257 fig. 73, 2–3), the earrings

are 50 mm high and weigh 6.2 and 5.1 g. This grave complex is dated to phase III B<sup>6</sup>, i. e. between 650 and 680/720 AD, according to the fitting and circular stirrup in the dromos (together with a burial of a

<sup>6</sup> Malašev (2018) classified the items on page 45 to the phase III B, and on page 46 explicitly to the phase III A.



site	context	matter	height of earring/ pendant (mm)	granulated shapes	cylindrical protrusion	dating
Sadská	settlement?	Au	-/20	triangle, lozenge	×	7 <sup>th</sup> c. ?
Deszk D	grave 170	Au	-/37	triangle	?	1 <sup>st</sup> half of the 7 <sup>th</sup> c.
Deszk Sz	grave 3	Au	-/34 with protrusions 36	»Y«	-	7 <sup>th</sup> c.
Deszk H	grave 12	Au	36/31	triangle	-	7 <sup>th</sup> c.
Hajdúböszö- mény	grave	Au	56/44	tiny triangle	-	7 <sup>th</sup> c.
Majdan	grave ?	Au	-/47	triangle	×	580-680
Mokrin ?	-	Au	51.2/40	triangle	×	580-680
Unknown site, Hungary	?	Au	51/37.1	circles, lozenges	×	
Kamunta	grave/s	Au	60?/47	circle, half-pearls in the mid- dle of sides	×	6 <sup>th</sup> - 7 <sup>th</sup> c.
Ustia Biskupie	?	Au	?	circles	-	6 <sup>th</sup> - 7 <sup>th</sup> c.
Klin Yar III	345, skeleton 1	Au	50/25	circles, triangle	×	<b>630-700/720</b>
South Ukraine	grave ?	Au	76/?	tiny triangles, circles, half- pearls in the middle of sides	×	at the end of the 6 <sup>th</sup> - 7 <sup>th</sup> c.
Durso Дурсо	248	Au + glass	46/28	circles	×	<b>late 7<sup>th</sup> - begin- ning 8<sup>th</sup> c.</b>
Taman Peninsula	?	Au	46	3 × 3 tiny triangles	×	2 <sup>nd</sup> half of the 6 <sup>th</sup> - 7 <sup>th</sup> c.

**Tab. 3** The closest pendants by type from the Deszk group (without fully granulated surfaces). By size, the closest earrings are the Byzantine ones from Klin Yar. – Lighter grey: Eastern Europe pieces; darker grey: Carpathian Basin pieces; bold: the latest dating.

horse), the bow fibula (brooch) and primarily the duo of golden fibulae decorated with granulation and red glass cloisonné enamel forming a motif of a human face (Belinskij/Härke 2018, fig. 73 pl. 7, 4) found in the chamber and the circular cast mirror and other golden tear-shaped pendants. This should be supported by the jug found in the dromos (Malašev 2018, 46 tab. 2, 3). There were three burials in the chamber. The earrings, as well as the circular fibulae, a round button, bracelets and the other finds belong to skeleton 1, whose head is oriented to the west. Skeleton 1 was most likely a female from the Alanic Period (the bones were sufficiently preserved for analysis)<sup>7</sup>, while skeleton 2 is a male. The grave lacks radiocarbon data. With regard to certain uncertainties in the context of phases A and B, the interval can be extended to the period 630–700/720 AD. It is evident that the burials were not simultaneous, but could have been done one after the other<sup>8</sup>. Another exam-

ple from grave 352, also at Klin Yar III, is dated to the first half of the 7<sup>th</sup> century and one of the pendants is separated from the ring of the earring (Belinskij/Härke 2018, fig. 96, 2I. 22). The burial ground is located on the Silk Road and the fittings from grave 360 have analogies in Bohemia.

Of course, there is also the famous site of Mokraya Balka (Stavropol/RU; Bálint 1989, fig. 3, I. 2) or Kamunta (Irafsky rajon/RU) together with the strap-end decorated with granulation and silver fittings from the end of the 6<sup>th</sup> century or the beginning of the 7<sup>th</sup> century (fig. 8, 3; Bálint 1989, fig. 1, 3) without the possibility of reconstruction of specific grave complexes in Kamunta. Earrings in silver made with stripes of granulation on the edges were found in Borisovka, complex 1955 (Krasnodarskij kraj; Primorskij rajon/RU; Makarova/Pletneva 2003, tab. 73, 29). From grave 248 in the burial ground of Durso/Dyrso (Krasnodarskij kraj; Novorossiiskij ra-

<sup>7</sup> In the burial ground, the earrings were worn also by males, e. g. in catacomb 360. Belinskij/Härke 2018, 28.

<sup>8</sup> Finds from the dromos can be the least consistent, as they could have appeared there by happenstance, but a lot of them were buried there de-

liberately - including the horse burial, which as a sacrifice belonged to the first phase of deposition. Skeleton 1 was the only intact one, skeleton 2 was damaged in modern times and skeleton 3 was moved already in the Early Middle Ages.



**Fig. 9** Earrings of the Deszk type and the details of granulation: **1** Deszk H, grave 12 (HU). – **2** Hajdúbörsöny-Vidipuszta (HU). – **3** Taman Peninsula (RU). – **4** detail Hajdúbörsöny-Vidipuszta. – **5-6** unknown site in the Komitat Torontál (HU). – (After Balogh 2014, figs 12–13). – Without scale; dimensions are given in *tab. 3*.

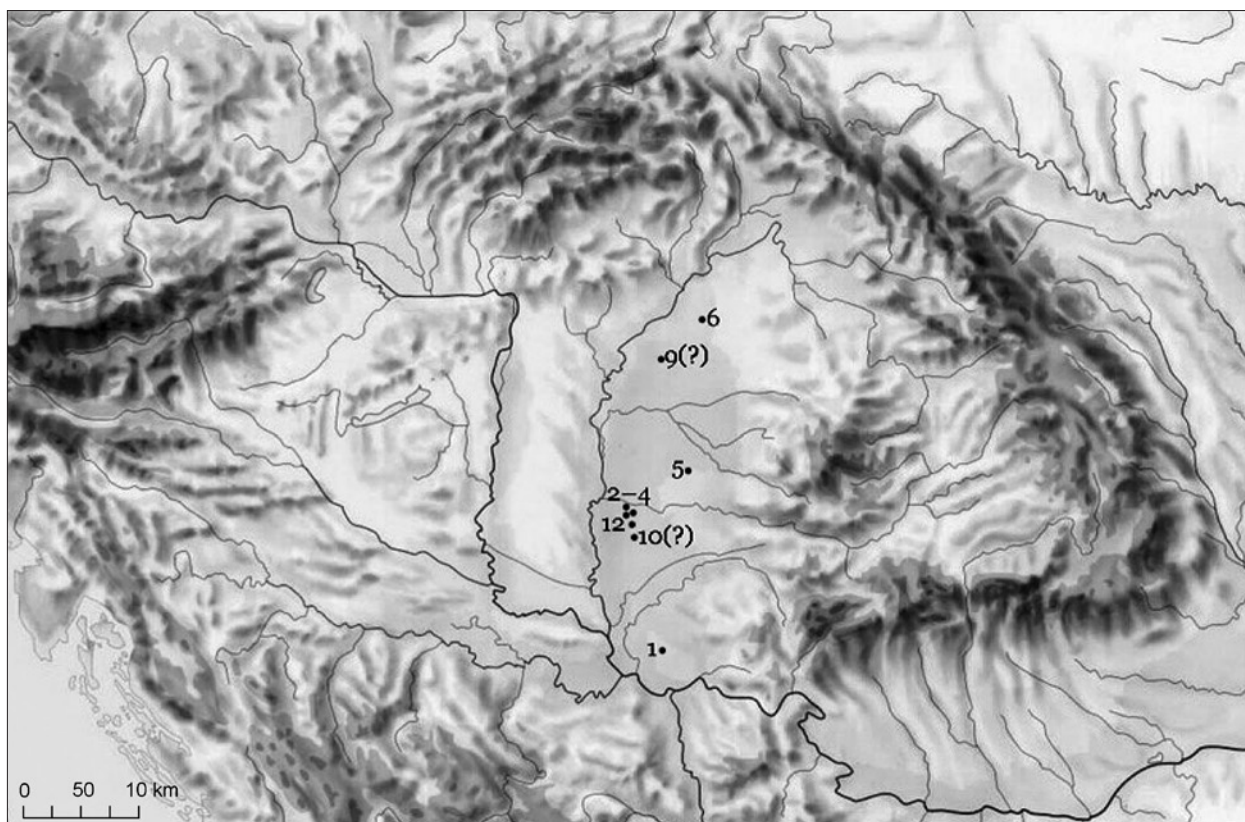
jon/RU) come earrings from the complex with sabre in the luxurious scabbard, spear and circular stirrups of the Early Avar type (Pletneva 1981, fig. 30, 28–29; Makarova/Pletneva 2003, *tab. 86*).

The appearance of this type of earrings in a rich cremation burial of a man with a horse and Byzantine decoration at Hlodosy/Glodossy (Kirovodgradskaja obl./UA [fig. 8, 5]; Prichodnjuk 2001, 274 photo 14, 3; Bálint 1989, fig. 38, 1) is of significant importance. They are accompanied by a necklace with a crescent pendant, also decorated with granulation, another golden necklace with a circular pendant and a third golden necklace, three rings, a strap-end, buckles, a part of a Sassanian silver vessel, shards of a chalice and a jug, a golden decoration of sabre's scabbard, decorations of a horse harness, an iron stirrup of the Early Avar type, a bridle bit, a spear and so on. The total weight of the golden decoration is 2.5 kg, silver 1 kg (Bálint 1989, 90; <https://goldenukr.com>.

[ua/?page\\_id=2742](https://goldenukr.com/ua/?page_id=2742) [I.6.2022]). The complex is dated to the second third of the 7<sup>th</sup> century, although some of the decorations were made a bit earlier – among them, most likely, the earrings we are interested in (turn of the 6<sup>th</sup>/7<sup>th</sup> c.), which are additionally decorated with »millefiori« inlays (cloissoné, turn of the 6<sup>th</sup>/7<sup>th</sup> c.). Near the upper Dniester lies Ustia Biskupie (Ternopil obl./UA; the mouth of Biskupia) with the find of the golden earring which has in its inner areas four separate circles of minute granulation – the principle of minute granulated shapes (Bálint 1989, fig. 51, 3); this earring is also tinier than other Eastern European pieces mentioned in this paper.

At the site Kelegej near Cherson (UA) (Arslan/Buora 2000, photo 12, 3), there were similar earrings together with Byzantine coins of the emperors Heraclius (610–641 AD) and Constans II (641–668 AD) – however, some of them were mounted as pendants (5 pieces; cf. Prichodnjuk/Chardaev 2001, fig. 8, ear-





**Fig. 10** The occurrence of the earrings of the Deszk type in the Carpathian Basin: **1** Alibunar-Schliesel J. Kertje (RS). – **2** Deszk D, grave 170 (HU). – **3** Deszk H, grave 12 (HU). – **4** Deszk Sz, grave 3 (HU). – **5** Gyula-Szentbenedek (HU). – **6** Hajdúböszörmény-Vidipusztá, Erdős-Tanya (HU). – **7-8**. **11** without site: Hungary. – **9** without site/Kisújszállás ? (HU). – **10** Mokrin (?) (Kikinda Museum) (RS). – **12** Majdan (RS). – (Map after Balogh 2014, fig. 14).

rings fig. 5), glass chalices, strap-end decorated with granulation, rings, bronze cast crosses, earrings with circular pendants and chains, buckles, silver horse harness decorations and so on (Bálint 1989, 95 fig. 40; Prichodnjuk/Chardaev 2001, also catalogue). In this case, all the finds also dated to the second third of the 7<sup>th</sup> century and the investigated earrings belong among the slightly older products.

In the museum in Kyiv (Музей драгоцінностей) is a couple of golden earrings with pyramid-shaped pendants from southern Ukraine which have tiny triangles made out of granulations on their sides and separately granulated lower sphere decorated by granulation, these are dated to the 7<sup>th</sup> century (fig. 8, 2; height 76 mm; Prichodnjuk 2001, photo 15). The earrings from these two sites – southern Ukraine [fig. 8, 2] and Kamunta [fig. 8, 3] – are the closest analogies to Sadská, also very close ones are Durso and Taman Peninsula (fig. 9, 3) in the Sea of Azov (Balogh 2014, tab. 10, 1-2. 5; esp. fig. 12, 7-8). Unfortunately, on the Taman Peninsula piece, the detail of the ending of the protrusion is not well visible, but it seems that the main ring of the earring is not soldered directly onto the pendant.

## The Carpathian Basin

This type of earring has already been discovered in several rich graves in the 19<sup>th</sup> century (grave 2 in Szentendre [Pest vármegye/HU] from the year 1871 gave the bade for the Szentendre type of this earring; Bóna 1982–1983, fig. 6). It appears even in Transylvania (Harhoiu 2015, fig. 21, 1, 2 – 6<sup>th</sup> c. to the beginning of the 7<sup>th</sup> c.) and eventually in the wider Transylvania, i. e. including Banat (RO/HU), Crişana (RO/RS), Maramureş (RO) apart from Transylvania (RO) itself (fig. 8, 8; Arslan/Buora 2000, cat. no. 11).

Within the framework of the Carpathian Basin, earrings are mapped out according to the technological **variant A** from sheet metal (there is even a mould or die of all three sides of the pendant) from Kuntszentmárton [Jász-Nagykun-Szolnok vármegye/HU] and **variant B** by casting (Bálint 2020, figs 19, 1; 31, 1; Balogh 2014, figs 2. 14), and also – where golden pieces are concerned – according to the variants Szegvár and Szentendre (Bálint 2020, fig. 29, 3). These have only been found in small concentrations eastward from the Tisza and near the Danube. However, both sheet metal and

cast pieces have a significant concentration of finds near the Lake Neusiedl (on the Austrian-Hungarian border) – that is in a region closer to Bohemia (unfortunately this is a type without granulation). The less numerous type of Velika Kladuša appears mostly near the Danube, except for the eponymous site lying deeper in the inland Balkans. The oldest earrings in the Carpathian Basin are simple pieces and also those with glass inlays in the area of the Keszthely Culture, some of them dating back to the 6<sup>th</sup> century and connected with the survival of certain workshops in the former province of Pannonia (Balogh 2014).

Cs. Balogh has exhaustively documented these earrings in the year 2014. Our interest in the broad group with several types is focused on the Deszk type, which, based on the composition of the granulated components, includes three variants that are prominently represented only in the vicinity of the Tisza (figs 9-10; Balogh 2014, 143 tab. 6, 7 fig. 14 map). For these, the lines of tinier granulation in the edge seams of the pendant, tiny granulated shapes inside the framing of the surface of the triangular sides, and the use of triangular components of decoration are characteristic and only in some cases do they also have the cylindrical protrusion with granulation for linking to the ring (fig. 8, 4). Some of them have only the granules in the corners of the base (three in each corner, sometimes another trio; fig. 8, 3, 6-7), others have small cylindrical protrusions like the already mentioned Szentendre type. All of them are bigger than our pendant. At least three of them have another strip of granulation instead of our upper filigree wire (Gyula-Pusztaszentbenek [Békés vármegye/HU]; Hungary without site; Hajdúböszörmény-Vidipuszta [Hajdú-Bihar vármegye/HU]; figs 9, 2; 10, 5-6).

The Deszk type is considered by Cs. Balogh to be a local type, imitating eastern models (figs 8, 2-3; 9, 3), in the Carpathian Basin these earrings were worn only for a short time compared to the area of the Caucasus Mountains and the Crimea, where their use covers a longer period (at least the 6<sup>th</sup> and the 7<sup>th</sup> c.). The prime time of their usage in the Carpathian Basin is according to Cs. Balogh the second half of the 7<sup>th</sup> century, however, there are very few well-dated sets. In the Carpathian Basin only nine sites with earrings of the Deszk type can be found (listed by Balogh 2014, 114 fig. 6c), all of them eastwards from the Tisza, in Deszk they were discovered at three sites (tab. 3), the northernmost being the site of Hajdúböszörmény-Vidipuszta – north of Debrecen (figs 9, 2; 10, 6).

Combinations of smooth wire with granulated lines and details of granulated triangles are shown

in Balogh's work (Balogh 2014, fig. 13; here fig. 9), especially Hajdúböszörmény-Vidipuszta with constructional differences. It is necessary to mention that even in this narrow group there are documented differences – by the size of the earring from Deszk H, grave 12 (fig. 9, 1; tab. 3), by the use of the cylindrical protrusion than the earring from the unknown site in Hungary and most likely also one from Majdan (fig. 8, 6; height 47 mm with loop; Lőrinczy 1998, fig. 13; Balogh 2014, fig. 12, 5), Mokrin/south of the Carpathian Basin – neither has the protrusion with a punched hole, but ends with an eyelet. The granulation in the middle of the bottom of the sphere has remained intact only on one earring unsurely connected to the site Mokrin (Severnobanatski okr./RS; Balogh 2014, fig. 12, 6).

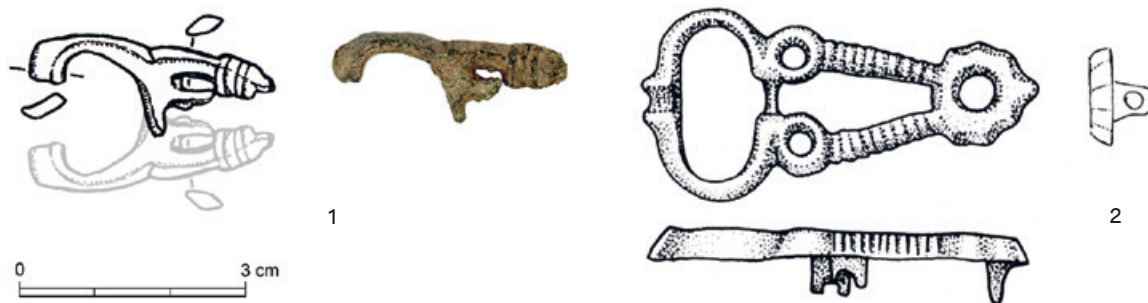
The earrings from Majdan, Deszk D or an unknown site in Hungary and most likely from Mokrin have small-sized granules in front of the lower sphere (Balogh 2014, pls 6, 1; 7, 1.3. 7), and this distinguishes them from the most widespread pieces with a larger ball in front of the big lower sphere (Balogh 2014, figs 5; 6; 12, 2 pl. 7, 5). These granules or balls are then missing in our case and in also in cheap cast pieces (figs 5f; 8, 10).

The sizes of the pendants alone in this group range from 3.1 to 4.4 cm (tab. 3), the weight of the whole earring from 13.9 to 18.4 g (unknown site, the weight of the pendants alone is not usually mentioned, so the difference in weight is significant). The high-quality complexes come from the burial grounds in Deszk and Hajdúböszörmény-Vidipuszta and can be dated to the Middle Avar Period. This corresponds with the new results of <sup>14</sup>C measurements on a bone from Glodossy (UA) in Eastern Europe. Calibrated radiocarbon data of two samples support the dating already proposed by Csanád Bálint (1410 ± 30 BP; 1465 ± 30 BP; Balogh 2014, 119).

Our find cannot be classified to any variant of the Deszk type with regard to its differences in details – some details connect it to other types of earrings with pyramid-shaped pendants. The bronze earring from Kiskunhalas-Balotapuszta (Bács-Kiskun vármegye/HU), also known as Kun-Halas, has – like our pendant – a wire at the upper base of the pendant (Balogh 2014, 147 tab. 2, 9; Hampel 1905, vol. II, 357 fig. 946).

Let's take another look at the detail of the granulation on the ending of the protrusion for the ring attachment. This is also known from the Balkans, e. g. from the piece from Veliká Kladuša (Unsko-sanska županija/BA) and Ram (Braničevski okr./RS) in the Serbian Danube region (Mrkobrad 1980, tab. LXXI, 2, 3) and from the piece at the Hungarian National Museum in Budapest (Hampel 1905, pl. 246, 8), this





**Fig. 11** 1 Sadská: part of the Byzantine type of buckle, find from the year 2022 with a partially reconstruction. – 2 Hungary, unknown site, similar piece as in fig. 11, 1. – (1 drawing and photo L. Raslová; 2 after Garam 2001, pl. 62, 2).

detail is not predominant<sup>9</sup> and is not usually found in the Deszk type.

Finally, we will point out that our pendant is somewhat slimmer than those of the above-mentioned earrings – this makes it closer to the older pieces from the 6<sup>th</sup> century. At the same time, the granulated protrusions on the lower sphere are also known from Czechia – from later grape-shaped earrings and an item with a column-shaped pendant from the 9<sup>th</sup> century (Dostál 1966, figs 8, 16, 18; 10, 7, 9, 26; Ungerman 2020, fig. 171, 5, 21, 27). It was, however, a permanent part of the decorative repertoire of Byzantine jewellers. In Bohemia, there are the golden earrings from Želénky (Profantová/Frána 2003, fig. 1, 2–3), and eventually the silver earrings from Prague-Lumbe Garden (Frolík/Smetánka 2014, fig. 158, 5–6).

Even if we observe many small deviations, which can be written off as individualization of luxury jewels, the pendant can be connected to the products from Deszk H, Deszk Sz, Mokrin (?) or the Taman Peninsula in the east. On the contrary, the small size required more demanding skills – as the precise granulation on such a tiny object is a real sign of mastery.

Cheap bronze earrings were worn in parallel with luxurious golden types – usually without granulation, although it was sometimes replaced by cast pseudo beaded wire or simply round wire. Cs. Balogh calls them cast and some of them even openwork – these could be complemented by glass parts. The earring pendant from Gols-Wiesenäcker (Bez. Neusiedl am See/AT; Distelberger 2004, fig. 5, 1; fig. 8, 11) and from Bad Deutsch-Altenburg-Burgfeld/Carnuntum (Bez. Bruck an der Leitha/AT; Winter 1997, pl. 6) are the closest to the Czech area, but these finds are from surface prospection. They

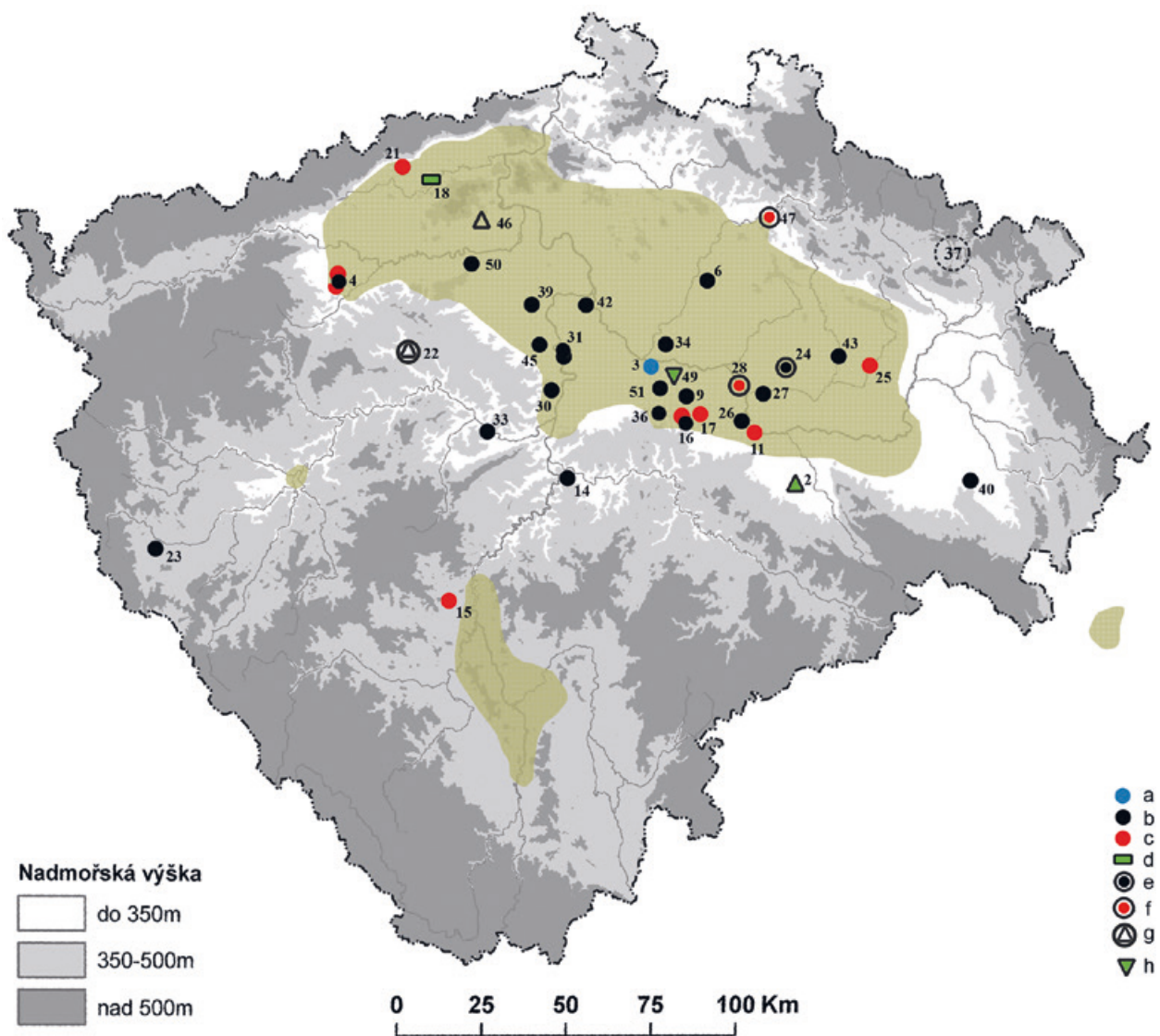
were found in the grave complex of e. g. Kiskőrös-Pohibúj-Mackó-dűlő, grave 8 (Bács-Kiskun vármegye/HU), also with a protrusion for a ring (fig. 8, 10; Balogh 2014, tab. 2, 4). This grave belongs to a woman and contains a drilled coin from the Late Roman Period, beads with eyelets from the Early Avar Khaganate Period, a bracelet and a rather atypical bronze mirror; the grave is dated to the turn of the 6<sup>th</sup>/7<sup>th</sup> century, including the first third of the 7<sup>th</sup> century (Garam et al. 1975, 298 fig. 2). From Bohemia we should mention the unpublished bronze pendant from Kozojedy-Dřevíč (okr. Rakovník/CZ) and the pendant from Jevíčko (okr. Svitavy/CZ), although it was found on the Moravian side of the old land border (Bohemia/Moravia) (fig. 8, 12; Vích et al. 2021, fig. 16, 1).

We can conclude like this:

- A. The Sadská pendant dates from the last third of the 6<sup>th</sup>–7<sup>th</sup> century – so it is probably part of an earring with a subvariant, which could have been inherited or acquired later. In this case it could have been used as an amulet, as often happened in ancient times (?).
- B. The pendant could be dated from the 3<sup>rd</sup> or more likely to the 4<sup>th</sup> century and could be a Roman import, but this seems to us to be a slightly less likely case.

If variant A. is valid, it could have arrived in Bohemia either from the south (contemporary southeast Ukraine) or from the southeast from the vicinity of the Tisza or eventually from the north of Serbia. We consider the production in important centres of that time (Constantinople, Thessaloniki and other cities thriving in the 6<sup>th</sup> c., including Crimeria, Fanagoria and Cherson).

<sup>9</sup> Many publications lack pictures of details, so the data are irrelevant from this perspective.



**Fig. 12** Bohemia in the 7<sup>th</sup> c. – Mostly cited sites in the text: **2** Čáslav-Hrádek, okr. Kutná Hora; **4** Dolánky – Rubín-hill, okr. Louny; **11** Kolín, okr. Kolín; **16-17** Kšely, okr. Kolín; **18** Ledvice, grave, okr. Teplice; **22** Lužná u Rakovníka, okr. Rakovník; **24** Městec Králové, okr. Nymburk; **28** Poděbrady, okr. Nymburk; **30** Praha – Košíře; **31** Roztoky u Prahy, okr. Praha-západ; **33** Srbsko, okr. Beroun; **34** Stará Lysá, okr. Nymburk; **42** Obríství, okr. Mělník; **43** Nový Bydžov, okr. Hradec Králové; **46** Třebenice, okr. Litoměřice; **47** Turnov (end of the 6<sup>th</sup> c.), okr. Semily; **49** Sadská (gold pendant), okr. Nymburk; **50** Žerotín, okr. Louny; the dating of **23** (Meclov) is unsure. – The settlement habitancy of the Prague-type pottery Culture is marked here in light green. – Metal finds: **a** Arabian coin; **b** Byzantine buckles and fitting; **c** Byzantine coins; **d** inhumation grave with gold; **e** hoard find of jewellery; **f** hoard with coins; **g** hoard with Early Avar finds; **h** goldring from the end of the 6<sup>th</sup> c. to the first half of the 9<sup>th</sup> c. – Green are gold finds probably produced in the 7<sup>th</sup> c. (triangle is gold fingering in later context). – (After Profantová 2023, 2II fig. 2a, modified).

## Conclusion

Golden Byzantine imports are rare in Bohemia, rarer than Roman imports. We can find them in the unrobbed graves from the 5<sup>th</sup> and the 6<sup>th</sup> centuries ascribed to the Germanic elite (Jiřík et al. 2015, figures on pp. 19, 152–153, 156). However, like in later times, we connect some of them rather to the Black Sea region and, more specifically, to the edge of the Byzantine Empire.

The uniqueness of the pendant makes it impossible to draw a clear chronological conclusion. There are two possible interpretations of the find and its context:

1. The pendant dates from the last third of the 6<sup>th</sup> or the 7<sup>th</sup> century and was part of an earring. Its exclusivity is much higher due to the robbing of the graves from the Migration Period and the lack of graves from the Prague-type pottery Culture. We prefer this variant because of the technical detail of the cylindrical, partly granulated protrusion for hanging on a ring and because of the small granulated shapes inside the decorative fields. We do not know whether earrings were exclusively female jewellery in Bohemia in that period – as is the case for the 9<sup>th</sup> century, from which they appear only in female graves – or whether, as in the Avar Khaganate in the 6<sup>th</sup> and the 7<sup>th</sup> centuries, they were also worn by males.
2. The pendant dates from the Early or Late Roman Period. In that case, it is an exclusive part of a folk costume and is connected to the dense population of the 3<sup>rd</sup> and 4<sup>th</sup> centuries, generally

ascribed to Germanic inhabitants (cf. Salač 2008; 2013; Břicháček/Košnar 2000).

There are documented finds from the Roman Period from Sadská (e. g. in the »V Olšinách« site), including an old group find of three coins from the Late Roman Period, deposited after the year 367 AD (the last emperor was Valens; Militký 2010, vol. I, 251–254) without a precise location, and newly even traces of settlement – a settlement pit with buried human remains in the curve of the rail-line in the direction of Třebestovice (Doubek 2020, 636).

In both cases, it was imported from the southeast or east. For the Roman Period, we can consider closer centres such as Carnuntum. In both cases, it could have been a gift for a specific person, or it could have belonged to a »foreign woman« who lived in Bohemia, and brought the jewel with her. Both version cannot be ruled out (cf. Drauschke 2011).

If we return to Sadská more specifically, it is necessary to mention a fragment of a one-piece buckle with an oval frame and a fragment of an openwork buckle plate, oval hole and frame with three relief ribbing – no. 24. It is a damaged piece of a Byzantine buckle dated to the second half of the 6<sup>th</sup> century and the first third of the 7<sup>th</sup> century (fig. 11)<sup>10</sup> and a fragment of a rectangular fitting with one remaining rivet (no. 23), that could be either from the Roman Empire Period or from the earliest part of the Early Middle Ages. The finds from the year 2022 indirectly support our theory of dating the pendant to the end of the 6<sup>th</sup>–7<sup>th</sup> centuries.

## Imports to Bohemia at the End of the 6<sup>th</sup> and the 7<sup>th</sup> Centuries

In this period we find the end of the Byzantine golden solidi (Militký 2009 with map), petering out before the end of the 7<sup>th</sup> century. They are concentrated in the Kolín region – that is in the neighbouring region of Sadská. In the 5<sup>th</sup> century and up to the end of the second third of the 6<sup>th</sup> century, pendants made from Byzantine solidi rarely appear (Nový Bydžov, Chotusice [okr. Kutná Hora/CZ], Čelákovice-Záluží [okr. Praha-východ/CZ], H 26/XXI: Svoboda 1965) – in the wealthy inhumation graves of the elite of the Germanic cultural circle (Migration Period).

Among the metal items from the 7<sup>th</sup> century and from more than 40 sites – some of them unpublished (fig. 12; Profantová 2023) – golden belt decorations with silver frames were found only in Ledvice u Duchcova (okr. Teplice/CZ; fig. 12, 18), in an inhumation grave of a foreigner from the first two thirds of the 7<sup>th</sup> century with ties to either the area of the Caucasus Mountains or the Crimea (Profantová 2023, with color fig.). The set of metal finds is dominated by decorations referring to the Byzantine cultural milieu (Byzantine types of buckles [15 pieces], belt

<sup>10</sup> The original look could have been similar to the buckle from Cikó (Tolna vármegye/HU), and the end of the small plate could have been simpler (Garam 2001).



fittings, decorated tweezers, metal necklaces: see Profantová 2013; 2015a; 2015b).

As regards the 7<sup>th</sup> century, there is another golden item tentatively connected to this cultural circle – more precisely, to the Langobards-Italy circle<sup>11</sup>. The massive ring from Čáslav-Hrádek (okr. Kutná Hora/CZ) with a relief motif, possibly a pair of dolphins, and a middle stone (now missing) was found in a later settlement complex from the last third of the 9<sup>th</sup>–10<sup>th</sup> century (fig. 12, 2; Charvát 1988). It is likely that it got inherited in the living culture at least until the 9<sup>th</sup> century<sup>12</sup>. Čáslav-Hrádek is situated on the long distance route from Moravia to Bohemia, so the ring could have reached the site via Moravia.

The massive silver Byzantine bracelets with widened ends decorated by lines of stamped rhomboids of the Szentendre type from Lužná u Rakovníka (okr. Rakovník/CZ [fig. 12, 22]; Lutovský 2016, fig. 4; Profantová 2023, with color photo 7a and p. 208), together with our find of »Byzantine« decorated tweezers from Jevíčko (Vích et al. 2021, fig. 20), show that luxurious items were continuously in use even in this period. Another silver incomplete fitting comes from a sunken house in Roztoky u Prahy (okr. Praha-západ/CZ [fig. 12, 31]; Kuna et al. 2005, fig. 230, 7; end of the 6<sup>th</sup> c. – beginning of the 7<sup>th</sup> c.).

With regards to the situation in Sadská, we can consider the Early Roman Empire Period or the Ear-

ly Middle Ages in the sense of the second half of the 6<sup>th</sup> and 7<sup>th</sup> centuries. Repeatedly, we find ourselves in situations where the finds made by metal detecting – or otherwise can only be dated broadly, even though the items are luxurious. A similar case was the work on the golden sheet metal from Jevíčko-Předměstí (Vích et al. 2021, 401–402 fig. 23, 1), where both possibilities were equal for the strap-end decorated by cloissoné technique from Kšely (okr. Kolín/CZ; 5<sup>th</sup> to the middle of the 7<sup>th</sup> c.) and other decorations.

We consider the existence of »cheap« bronze imitations of earrings with pyramid-shaped pendants – both three-sided and four-sided – to be important, although the pieces are incomplete. In this sense, the recently published piece from Jevíčko-Předměstí is significant (fig. 8, 12; Vích et al. 2021, fig. 21, 10), as well as the unpublished piece from Kozojedy-Dřevíč (found by Z. Šámal, in the local Museum of Tomáš-Garrigue Masaryk in Rakovník). Ties to the east – to Ukraine and the Crimea – have been proven for the set from Ledvice and the hoard from Městec Králové (okr. Nymburk/CZ; fig. 12, 24), the strap-end from Nová Ves I (okr. Kolín/CZ) and other metal finds (Profantová 2015b; 2023). This makes the dating of the pendant more plausible.

Despite some uncertainties, the pendant belongs to the best jewellery products found in Bohemia.

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<sup>11</sup> Other golden earrings and pendants came from the 9<sup>th</sup> c. graves (Profantová/Frána 2003, fig. 1).

<sup>12</sup> Analogies are only approximate, the dating can be wider interval.

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# Zusammenfassung

## Résumé

### **Der goldene Anhänger aus Sadská - ein frühbyzantinischer Import?**

Der goldene (80-83 % Au; 19,16-19,93 Karat) dreiseitige Anhänger, der mit Granulation und Filigranarbeit frühbyzantinischer Herkunft verziert ist, kam 2022 in Sadská (Okr. Nymburk) in Mittelböhmen in der neu entdeckten frühmittelalterlichen Siedlung mit Funden hauptsächlich aus dem 8. Jahrhundert zutage. Der Anhänger besteht aus 13 Hauptkomponenten, 5 filigranen Drähten (3 mit rundem Querschnitt, 2 mit Perlen) und 174 Goldkugelchen. XRF- und SEM/EDS-Analysen wurden an verschiedenen Bauteilen und Lotstellen durchgeführt. Die Nähte und Lotstellen sind deutlich sichtbar, sodass die Herstellung im Detail beschrieben werden kann. Es handelt sich höchstwahrscheinlich um einen Anhänger von einem Ohrhring mit einem kleinen pyramidenförmigen Anhänger vom Typ Deszk. Die besten Analogien finden sich in Gräbern der zweiten Hälfte des 7. Jahrhunderts aus dem Südosten des Karpatenbeckens und auch in Gräbern aus dem Südosten der Ukraine und der Kaukasusregion im 6. Jahrhundert. Die Anhänger sind allerdings etwas größer. Was die Kontinuität der spät-römischen und byzantinischen Produkte angeht, kann ein spätrömischer Import nicht ausgeschlossen werden, auch wenn die Datierung in die zweite Hälfte des 6. und vor allem in das 7. Jahrhundert plausibler ist. Der Anhänger repräsentiert einen der drei Fälle von goldenen Importfunden in Böhmen aus dem späten 6. und 7. Jahrhundert.

### **Le pendentif en or de Sadská - une importation byzantine précoce?**

Le pendentif en or (80-83 % Au; 19,16-19,93 carats) à trois faces, décoré de granulations et de filigranes d'origine byzantine ancienne, a été découvert en 2022 à Sadská (okr. Nymburk) en Bohême moyenne, dans ce nouveau site du Haut Moyen Age, avec des trouvailles datant principalement du 8<sup>e</sup> siècle. Le pendentif se compose de 13 éléments principaux, de 5 filigranes (3 de section ronde, 2 perles) et de 174 granules. Des analyses XRF et SEM/EDS ont été effectuées sur les différents éléments et sur les zones de soudures. Les joins et les zones de soudure sont clairement visibles, ce qui permet de décrire en détail la fabrication du pendentif. Il s'agit très probablement d'un pendentif provenant d'une boucle d'oreille avec un petit pendentif pyramidal de type Deszk. Les meilleures analogies se trouvent dans les tombes de la seconde moitié du 7<sup>e</sup> siècle du sud-est du bassin des Carpates, ainsi que dans les tombes du sud-est de l'Ukraine et de la région du Caucase, datées du 6<sup>e</sup> siècle. Les pendentifs sont toutefois un peu plus grands. Dans le contexte de la continuité entre les objets romains tardifs et les objets byzantins, une importation romaine tardive ne peut être exclue, même fait partie de l'un des trois cas d'objets en or importés, découverts en Bohême à la fin du 6<sup>e</sup> et au 7<sup>e</sup> siècle.

## Schlüsselwörter

### Mots-clés

Böhmen / byzantinische Goldohrringe / Granulation / Herstellung / Import  
Bohême / boucles d'oreilles byzantines en or / granulation / fabrication / importation

