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THE ESSENCE OF POWER – A MIDDLE BRONZE AGE GOLD ARMLET FROM TÁPIÓBICSKE (CENTRAL HUNGARY)

János Gábor TARBAY^{*} 

The study discusses a new gold armlet from Tápióbicske (Pest County, HU), a unique masterpiece of the Carpathian Middle Bronze Age. This exceptional find belongs to the group of gold armlets with crescent-shaped terminals. Its best parallel is the Bilje (HR) gold armlet. The results of stylistic analysis of the patterns on the Tápióbicske gold armlet suggest that these sheet metal gold armlets may be associated with the gold and bronze products from the Br A2 (Hajdúsámson horizon) and Br B1 (Koszider horizon) periods. Pottery discovered during the field survey of the site also supports the Middle Bronze Age dating. It seems plausible that the find was manufactured and probably deposited around the time of the Koszider period (Br B1, 1600–1450 BC), based on the chronological range of parallels, especially gold ones and the fine analysis and comparison of the chased, and embossed patterns on the Tápióbicske gold armlet, as well as on the general tendency of gold object deposition during the Middle Bronze Age in the eastern part of the Carpathian Basin. Regarding the material of the armlet, its technological and stylistic character, along with its symbolical depictions, it is undoubtedly a special product intentionally made for a member of the Middle Bronze Age elite, probably at the highest level of the local hierarchy.

A tanulmány a középső bronzkori fémművesség egyedülálló mestermunkáját, a Tápióbicskéről (Pest megye) származó, új arany karpántot mutatja be. A kivételes tárgy a holdsarlós végű karpántok körébe tartozik, melynek legjobb párhuzama a bellyei (Bilje, Horvátország) lelet. A Tápióbicskén talált karpánt a stilisztikai elemzés alapján inkább a Rei. Bz. A2 (Hajdúsámson horizont) és Rei. Bz. B1-es periódus (Koszider horizont) arany és bronzleleteihez köthető. A lelőhelyen terepbejárás során előkerült középső bronzkori kerámiaanyag keltezése is megerősíti ezt a datálást. A párhuzamok, különösen az aranyból készült példányok időbeli szóródása, a középső bronzkori aranytárgyak deponálásának általános tendenciája a Kárpát-medence keleti felében, továbbá a vizsgált karpánt poncolt és trébelt mintáinak elemzése és összehasonlítása arra enged következtetni, hogy a tápióbicskei arany karpánt valószínűleg a Koszider periódus (Rei. Bz. B1, 1600–1450 BC) időszakában készült, illetve ugyanebben az időszakban is deponálhatták. Figyelembe véve a karpánt anyagát, továbbá technológiai, stilisztikai karakterét és szimbolikus ábrázolásait, az ékszer kétséget kizárólag különleges termék, melyet a helyi, valószínűleg a társadalmi hierarchia csúcsán álló középső bronzkori elit egyik tagjának készíthettek.

Keywords: gold armlets with crescent-shaped terminals, Carpathian Basin, Middle Bronze Age, Br A2–Br B1, Bilje.

Kulcsszavak: holdsarlós végű arany karpántok, Kárpát-medence, középső bronzkor, Rei. Bz. A2–Rei. Bz. B1, Bellye / Bilje.

Introduction

In the time of illegal *metal-detecting*, looting of important archaeological sites and illicit trade of smuggled East-Central European artefacts to West European countries, it is quite rare that a museum collection, no matter how old and prestigious, is en-

riched with a new object of outstanding historical significance. It has become clear since the foundation of the first national museums that the patriotic enthusiasm for occasionally offering artefacts to these sanctuaries of history has quickly diminished. Recently, scholars, who keep an eye on the Euro-

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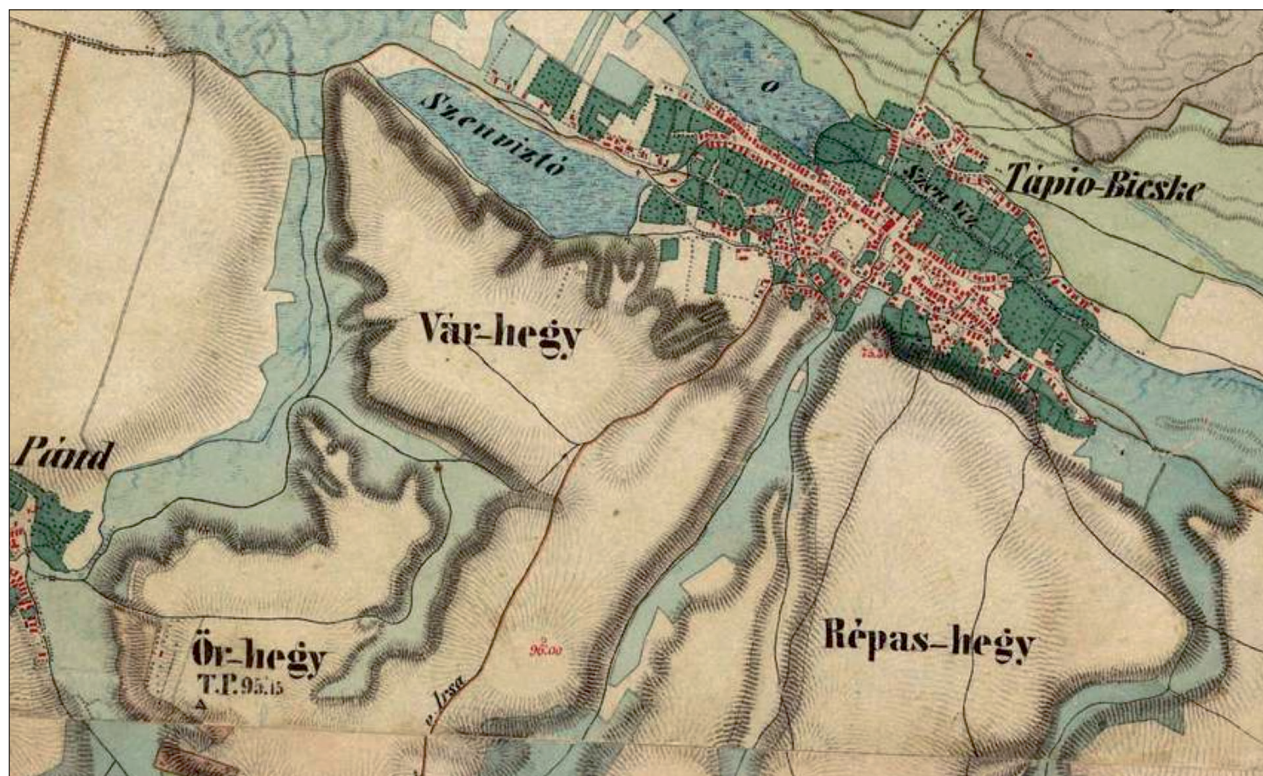


Fig. 1 Tápióbicske on the second military survey of the Habsburg Empire
 1. kép Tápióbicske a második katonai felmérés térképén

pean antiquities market may have been shocked to see that in July 2020, two heavy gold bracelets with double spiral terminals, weighing altogether 454.81 grams, were up for auction at the Hôtel des Ventes de Monte Carlo in Monaco, marked as objects that belong to the “North European culture” and under the provenance of “Flandres, private collection of Mr. F, 80’s” (HVMC 2020, 52–55, LOT 77). Apart from the ridiculous cultural classification made by the so-called expert working in this auction house, the provenance of these objects is obviously fake as these are well-known artefacts that were produced in the East Carpathian Late Bronze Age metallurgical sphere (East Hungary, and Romania – Transylvania). Notable examples that are almost identical, are known from Hajdúszoboszló, Hungary and Pericei, Romania (Mozsolics 1973, 96–101, Pl. 101; Metzner-Nebelsick 2019, 403).

These “rings of power” (Metzner-Nebelsick 2010; Metzner-Nebelsick 2019) may be lost forever, which further obscures our knowledge of past societies that lived in the prehistoric East Carpathian Basin. But the gold armlet discussed in this study was offered, purchased and since its discovery it has been studied and prepared for an exhibition in the Prehistoric Collection of the Hungarian National Mu-

seum (HNM). This purchase is undeniably a new milestone in the more than 200-year-old history of the HNM. It is well known that this institute holds most of these emblematic ornaments from Central Europe: e.g., Abrud, Biia, Dunavecse, Transylvania (Géza Kárász Collection) and from the Körös area. Naturally, most of them were purchased at the end of the 19th century, at the time of the Austro-Hungarian Empire. Only the Dunavecse armlet was bought 50 years ago in the socialist era of Hungary (Mozsolics 1968, 47–57; Kovács 1991, 7). For scientific research in the HNM, the importance of this new gold armlet is also symbolical, as several generations of scholars wrote research-defining works on this artefact group starting with József Hampel’s study on the Biia armlet (Hampel 1880) to the seminal works of Amália Mozsolics (Mozsolics 1951; Mozsolics 1968), Tibor Kovács (Kovács 1991; Kovács 2000) and finally Tibor Kemenczei (Kemenczei 1995; Kemenczei 2005). The present study attempts to continue the series of these works. The primary aim is to provide an archaeological background for the ongoing and future studies that focus on the field research of the site, as well as on the interpretation of production technology by metalwork production and use-wear analysis (Tarbay, Lukács 2022) or the archaeometallurgy of the arte-

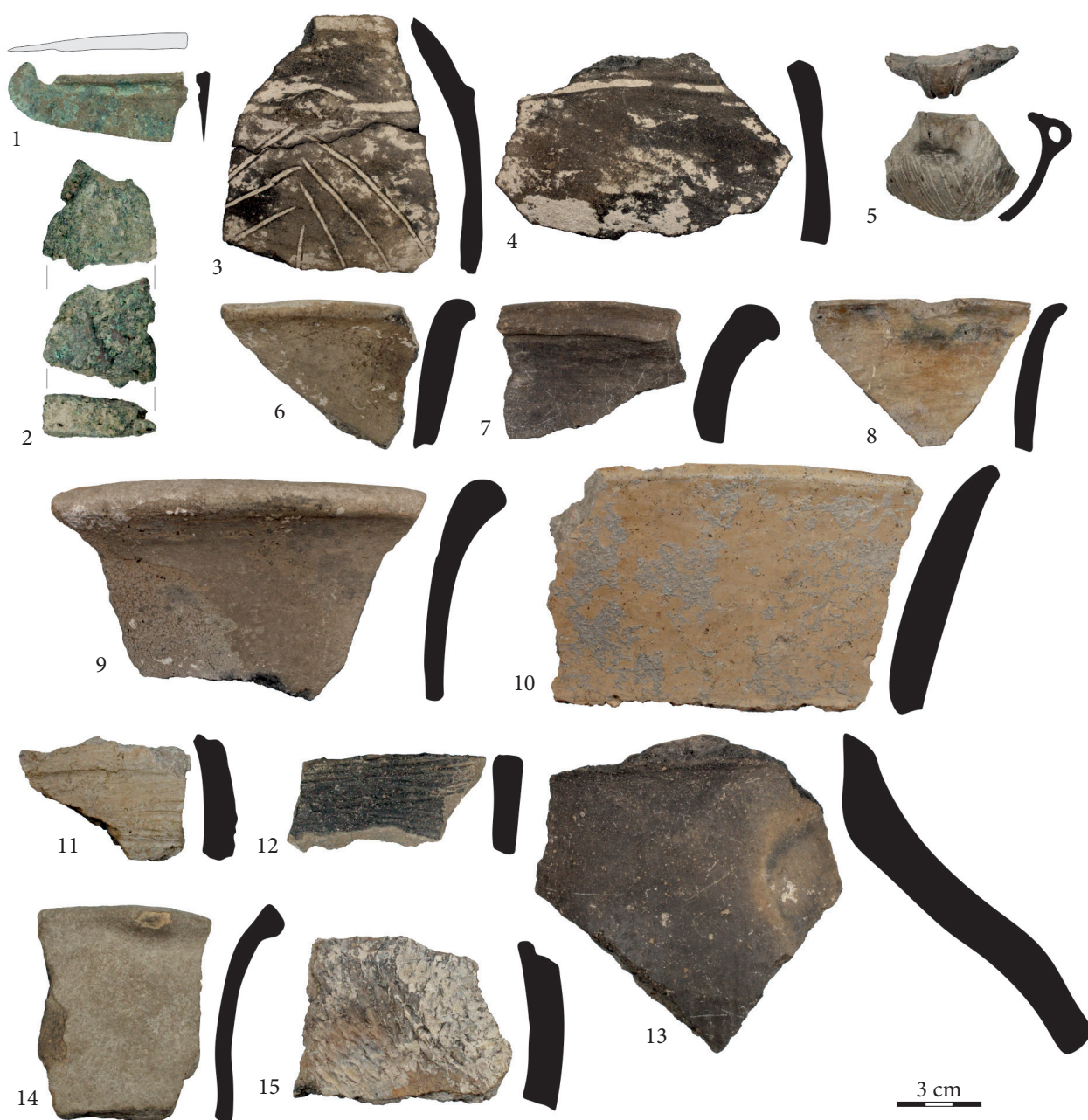


Fig. 2 A selection of metal stray finds, and potsherds collected during the site's 2016 field survey at Tápióbicske (photo: J. G. Tarbay)

2. kép Válogatás a tápióbicskei lelőhely 2016-os kutatása során gyűjtött fémszórványokból és kerámiatörésekből (fotó: Tarbay J. G.)

fact and the armlet group (Tarbay, Maróti 2022).

The gold armlet was purchased in October 2016 from a local resident in Tápióbicske (See Tarbay 2021). Since its acquisition, it was studied by Ildikó Szathmári the former head of the Prehistoric Collection of the HNM. She managed the acquisition of the find and organized the primary research on this object in cooperation with colleagues from the Institute of Energy Research and the Hungarian Academy of Sci-

ences. The author of this study owes her a great debt of gratitude as she has generously granted him the complete right of publication of the object in 2021.

Apart from its material value (303.7 g) and obvious historical significance, it is also important to note that the findspot of this gold object is known. Unlike its counterparts where there is barely any information about their place of discovery, the exact findspot of this gold ornament was possible to lo-

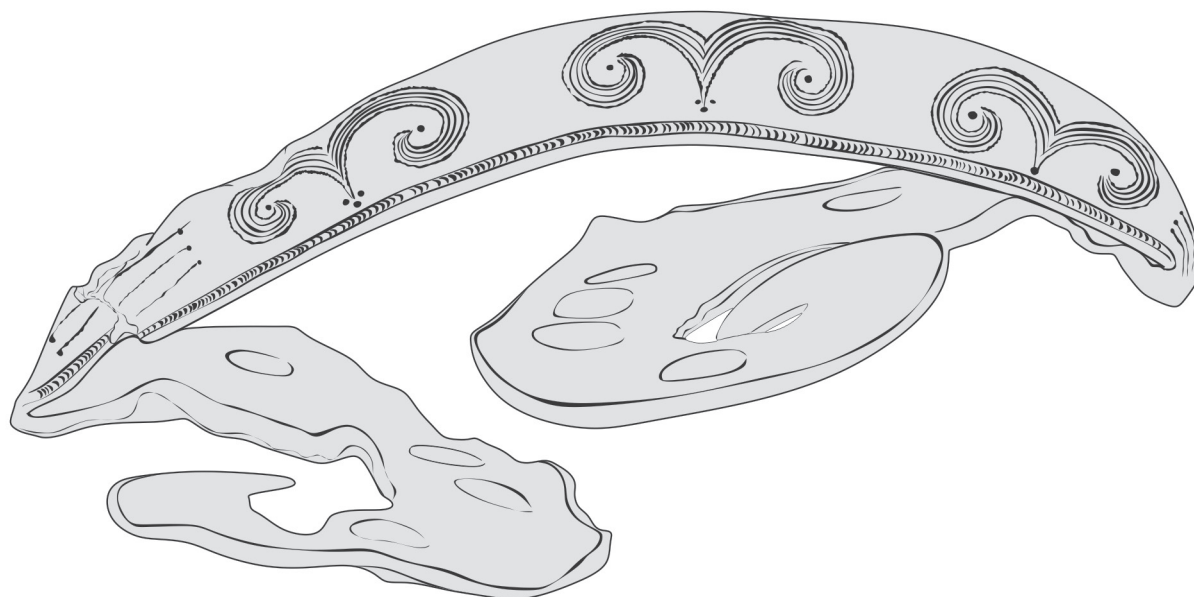


Fig. 3 The original folded state – reconstruction (drawing: J. G. Tarbay)
3. kép Az eredeti összehajtott állapot – rekonstrukció (rajz: Tarbay J. G.)

cate. The object was discovered on a ploughed field near the western border of the village of Tápióbicske, in the Várhegy and Kalapos-hegy (Tarbay 2021). Both are well-known archaeological sites from the 19th century (Fig. 1). Research described the Várhegy as a “Vatya culture” settlement while the Kalapos-hegy as a site inhabited by the people of the “Hatvan culture” (Kubinyi 1864, 171–172, no. 764; Gerecze 1906, 637; Márton 1910, 167; Patay 1958, 25; Kalicz 1968, 126; Miklós 1982, 35–36; Miklós 2006, 327, no. 391; Miklós 2007, 139; Miklós 2012, 136).

The findspot was revisited on 2 March 2016 by Ildikó Szathmári and the author to record GPS coordinates and some preliminary information about the site. At the site, two additional bronze objects were found, one of them can be identified as a small fragment of a plano-convex ingot (Fig. 2, 2), while the other is a tip fragment of a bronze sickle decorated with one rib (Fig. 2, 1). Unfortunately, neither of them is suitable for exact relative chronological dating. Plano-convex ingots became frequent since the Middle Bronze Age in the Carpathian Basin and were produced until the end of the Late Bronze Age (Czajlik 2012, 67–71). Sickles with one blade rib are known among the knobbed and flanged variants, and the production of these agricultural tools also covers several centuries between the end of the Middle Bronze Age and the Late Bronze Age (Tarbay 2018, 66–72, Fig. 42–43). The exact find-spot of the gold object was identified, the exact topographical

location was recorded by GPS coordinates (for the protection of the site this information is classified, for further topographical information See Tarbay 2021). During this brief visit, several potsherds were collected from the site which seems to have been inhabited for multiple periods starting with the end of the Middle Bronze Age (Fig. 2, 3–15) and the Sarmatian Period. A selection of potsherds dated to the end of the Middle Bronze Age is presented in Fig. 2, their detailed analysis and catalogue will be published in a separate multi-authored study in cooperation with Nóra Szabó which focusses on the topographical evaluation of Tápióbicske (Fig. 1).

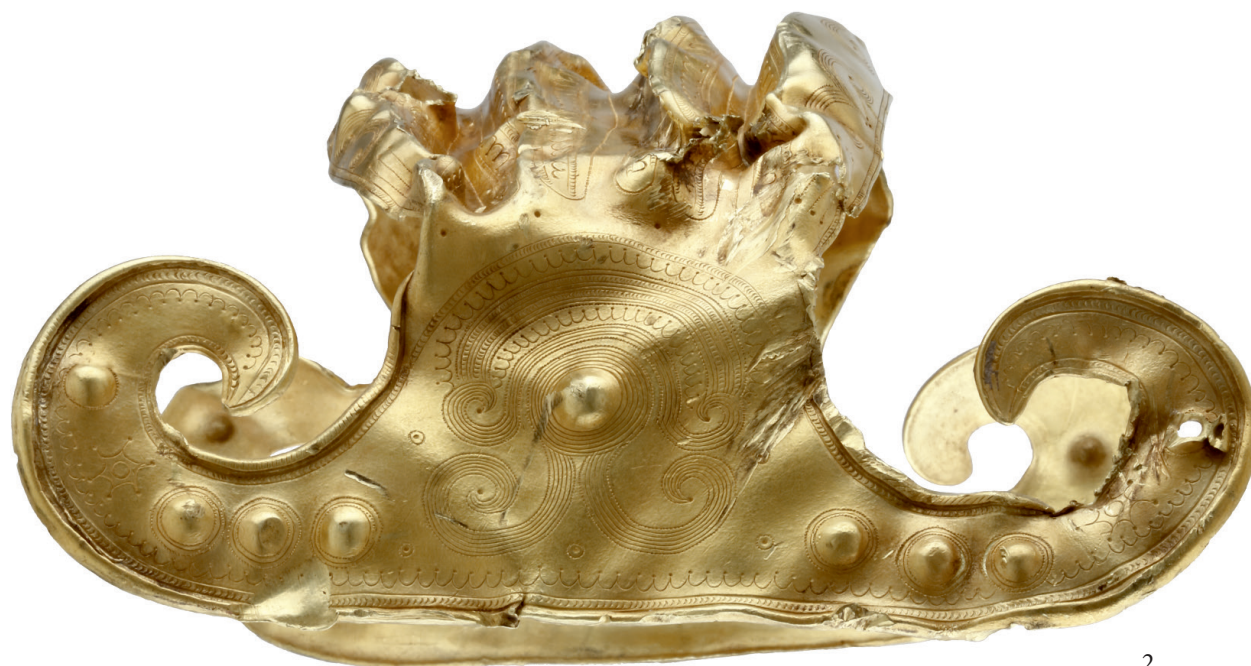
In the following, the study will concentrate on the *description of the find*, the *research history*, a *typo-chronological evaluation*, and an *interpretation* within the confines of the presently known information on this object and its related finds.

Description of the Gold Armlet

Gold armlet (Inv. No. 2016.4.1). Large gold armlet with a ribbed back and crescent-shaped terminals which are emphasized by thick, hammered edges. The cast, and hammered object was decorated with chased patterns and embossed dots. The object was in a heavily damaged state of preservation due to ploughing. Most of the deep impacts are the result of this activity. Originally, the crescent-shaped terminals were folded under the band part (Fig. 3). A manipulated state for these kinds of ornaments is not unparalleled. The Abrud find was originally found in a flattened state and



1



2

3 cm

Fig. 4 The gold armlet from Tápióbitske – crescent-shaped terminals

(© Hungarian National Museum, Budapest, photo: Iván Jaksity)

4. kép A tápióbitskei arany karpánt – holdsarlós végek

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later restored (Hampel 1892, 375, Fig. 6, 1–2). Worn traces along its terminals can also be observed. (See the description of the motifs below, and the production technological traits of the object in Tarbay, Lukács 2022. Dimensions: 135.25×128.33/137.98 mm, height: 77.42 mm, width of the crescent-shape terminal (1): 129.28×42.84–41.29 mm,

width of the crescent-shaped terminal (2): 137.85×42.70–40.65 mm, width of the body: 66.64 mm, 61.04 mm, thickness of the terminal (1): 1.91, thickness of the terminal (2): 2.25 mm, thickness of the body: 0.91–0.94 mm, weight: 303.7 g (Fig. 4–9).



Fig. 5 The gold armband from Tápióbicske – top and side views
(© Hungarian National Museum, Budapest, photo: Iván Jaksity)
5. kép A tápióbicskei arany karpánt – felül- és oldalnézet
(© Hungarian National Museum, Budapest, fénykép: Jaksity Iván)



Fig. 6 The gold armlet from Tápióbicske – reverse and side views
(© Hungarian National Museum, Budapest, photo: Iván Jaksity)
6. kép A tápióbicskei arany karpánt – alulnézet- és oldalnézet
(© Hungarian National Museum, Budapest, fénykép: Jaksity Iván)



Fig. 7 The gold armlet from Tápióbecske – crescent-shaped terminal (drawings: Anna Mária Tarbay)
7. kép A tápióbecskei arany karpánt – holdsarlós vég (rajz: Tarbay Anna Mária)



Fig. 8 The gold armlet from Tápióbitske – crescent-shaped terminal (drawings: Anna Mária Tarbay)
8. kép A tápióbitskei arany karpánt – holdsarlós vég (rajz: Tarbay Anna Mária)



Fig. 9 The gold armlet from Tápióbicske – top and side views (drawings: Anna Mária Tarbay)
9. kép A tápióbicskei arany karpánt – felül- és oldalnézet (rajz: Tarbay Anna Mária)



Fig. 10 The gold armlet from Bilje (Croatia) (© Natural Historical Museum, Vienna)
10. kép A bellyei (Horvátország) arany karpánt (© Naturhistorisches Museum, Bécs)

*Description of the Metal Stray Finds Collected
 on 2 March 2016*

1. Sickle (non-inventoried): Tip fragment of a sickle with ribbed body. It is hammered along its edge and broken by bending. Dimensions: 61.54×20.28–24.06 mm, thickness: 5.02–1.61 mm, width: 15.9 g (*Fig. 2, 1*).

2. Plano-convex ingot (non-inventoried): Body fragment of a plano-convex ingot. Layers are visible along its break-age surfaces. Dimensions: 38.86×38.54 mm, thickness: 15.06 mm, width: 62.1 g (*Fig. 2, 2*).

Research History

Besides the Tápióbciske find, a total of nine published gold armlets with crescent-shaped terminals are known, which are distributed in the territory of Hungary, Croatia, and Romania (Transylvania) (Kovács 1991, 11, Fig. 4; Kovács 2000, Fig. 20). These unique objects were found in Abrud (Romania) (*Fig. 13, 1*), Biia (Romania) (*Fig. 12, 2*), Bilje (Croatia) (*Fig. 10*), Boarta (Romania) (*Fig. 16, 2*), Dalj (Croatia) (*Fig. 16, 1*), Dunavecse (Hungary) (*Fig. 11*),

Géza Kárász Collection – Transylvania (Romania) (Fig. 12, 1), Körös area (‘Hungary’) (Fig. 13, 2) and Pipea (Romania) (Fig. 14). Information in literature accessible to me was summarized in *Appendix 1–9*. Since the 19th century, most works on these gold ornaments have focussed on the fundamental question of relative dating. Below, the results of those works will be emphasized which left a formative impact on research history, particularly by the evaluation of the stylistically closely related finds to the Tápióbicske gold armlet: Bilje and Dunavecse.

When the HNM acquired the famous Transylvanian gold bracelet from Biia (Fig. 12, 2), József Hampel provided a short review of its related finds, of which it is important to highlight the ones found at Bilje (Fig. 10), Pipea (Fig. 14) and Transylvania (Géza Kárász Collection) (Fig. 12, 1) (Hampel 1880). Later, he formulated an opinion on the Körös area armlet (Fig. 13, 2) which appeared as a Bronze Age object in his monograph series (Hampel 1886a, Pl. 47, 5; Hampel 1886b, Pl. 47, 5). On the other hand, he dated the Abrud find (Fig. 13, 1) to the La Tène period, thus introducing the idea of Iron Age armlets with crescent-shaped terminals to archaeological research (Hampel 1892, 375).

The Bilje gold armlet from the collection of the Natural Historical Museum in Vienna was re-published by Moriz Hoernes who classified this unique ornament to the group of “Hallstatt Period” finds (Hoernes 1906, 79, Fig. 50) (Fig. 10). Max Ebert has also briefly discussed the Bilje and Pipea ornaments (Fig. 10, 14) in his study on the Dalj gold finds (Fig. 16, 1). Although he stressed that the Bilje and Pipea armlets were stray finds, and thus unsuitable for dating, he related them stylistically to the gold artefacts discovered at Michałkow, Besenyszög-Fokoru and Dalj (Ebert 1908, 270–271, 276). The conclusions of Max Ebert were important as they affected several scholars, including Tibor Kemenczei who followed a similar line of thought in 2005 (Kemenczei 2005, 81–82). The idea of dating gold bracelets and armlets with crescent-shaped terminals to the Late Bronze Age and Iron Age appears in the works of Vasile Pârvan (Pârvan 1926, 338–341, 679–680), Ion Nestor (Nestor 1933, 125; Nestor 1934) and Márton Roska (Roska 1942, 12, 226; Roska 1944, 53, 63, 66). Ion Nestor dated the Boarta and Dalj pieces (Fig. 16) to the Early Iron Age and pointed out their Bronze Age predecessors (e.g., Körös area) (Nestor 1934, 179–180). The opinion of Lajos Márton should also be highlighted, who related the Biia (Fig. 12, 2), Abrud



Fig. 11 The gold armlet from Dunavecse (Hungary)
(© Hungarian National Museum, photo: Ádám Vágó)

11. kép A dunavecsei arany karpánt

(© Magyar Nemzeti Múzeum, fotó: Vágó Ádám)

(Fig. 13, 1) and Géza Kárász Collection – Transylvania finds (Fig. 12, 1) to the La Tène period, following the same concept and argument as József Hampel and Max Ebert, and supplemented with additional Late Iron Age stylistic parallels (Márton 1933, 87–90). His conclusions were overturned by Dorin Popescu who connected the Abrud (Fig. 13, 1), Bilje (Fig. 10), Biia (Fig. 12, 2), Transylvania (Géza Kárász Collection) (Fig. 12, 1), Pipea (Fig. 14) and their related finds to the “Hallstatt era”. He emphasized that no specific period can be associated with these gold ornaments, but their dating is no later than the Ha B and Ha C periods. This time interval can be re-

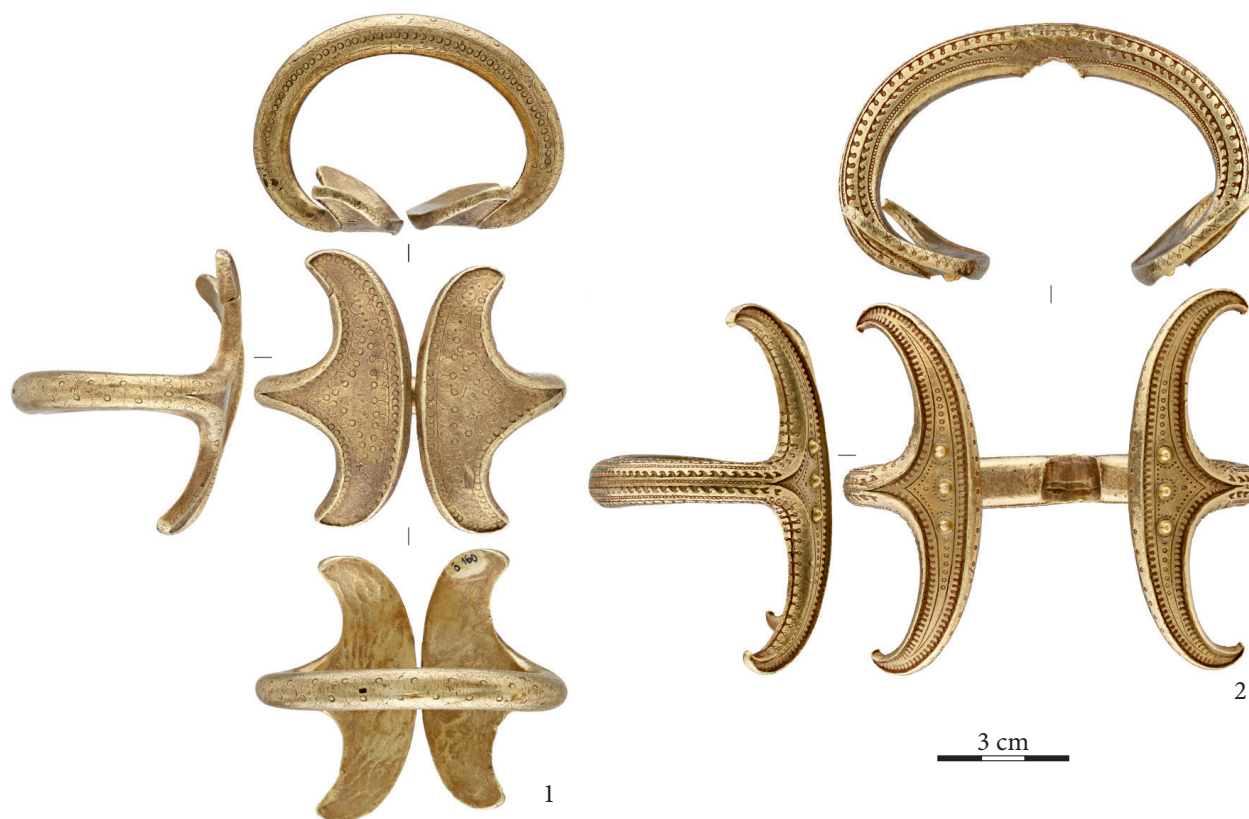


Fig. 12 1: The gold armlet from Transylvania (former Géza Kárász Coll.); 2: The gold armlet from Biia (Romania) (© Hungarian National Museum, Budapest, photos: Iván Jaksity)

12. kép 1: Az erdélyi arany karpánt (korábbi Kárász Géza gyűjt.); 2: A magyarbényei (Románia) arany karpánt (© Magyar Nemzeti Múzeum, Budapest, fotó: Jaksity Iván)

lated to the period that is now associated with the Late Bronze Age and Early Iron Age in Hungarian research (Popescu 1956, 216–217, 238–239). The Iron Age “Hallstatt” dating emerged in the work of Vladimir Dumitrescu (Dumitrescu 1974, 407–409) as well, although it seems that he also accepted the Middle Bronze Age dating at the same time, which was proposed by Amália Mozsolics some years before (Mozsolics 1968; Dumitrescu 1972, 138; Dumitrescu 1974, 407–409).

Amália Mozsolics described her conclusion in several of her works in which she discussed the Bilje gold armlet (Fig. 10) and its related finds (Mozsolics 1951; Mozsolics 1968; Mozsolics 1970, 142–143). Her studies are highly influential, and it can be stated without exaggeration that they are the most often cited studies on gold armlets with crescent-shaped terminals. In 1951, she re-evaluated the Bilje find by correcting an erroneous localization of the findspot to Tolna County in southwestern Hungary (von Sacken, Kenner 1866, 345, no. 49; Hampel 1880, 215; Ebert 1908, 270; Párvan 1926, 339; Nestor 1933, 125). She also discussed its related finds like the Abrud (Fig. 13, 1),

Pipea (Fig. 14), Transylvania (Géza Kárász Collection) (Fig. 12, 1) with particular attention to the Biia gold armlet (Fig. 12, 2). Amália Mozsolics also rejected all previous works that had dated the Bilje specimen to the Iron Age (and Late Bronze Age), and she connected this exceptional piece of metalwork to the “Cófalva [Țufalău] civilization”, i.e., to the Bronze Age based on the stylistic parallels of its motifs and decoration. Her work was the first one to mention some reliable parallels and key arguments on relative chronology, like the Kelebia axe (Fig. 15, 1), in which the patterns are clearly the stylistic counterparts of the Bilje object. Amália Mozsolics has also emphasized the stylistic connection of gold armlets and the whole Hajdúsámson horizon with the eastern Mediterranean, particularly with the Aegean area. Furthermore, she also noted some plausible links between the Hajdúsámson motifs and Scandinavia, a line of thought that has reappeared in her later works as well (Mozsolics 1951, 85–86; Mozsolics 1964, 107; Mozsolics 1973, 7a). (Mihai Rotea related the Abrud and Körös area finds to Wietenberg II objects under Minoan influence: Rotea 2017, 66.) According to

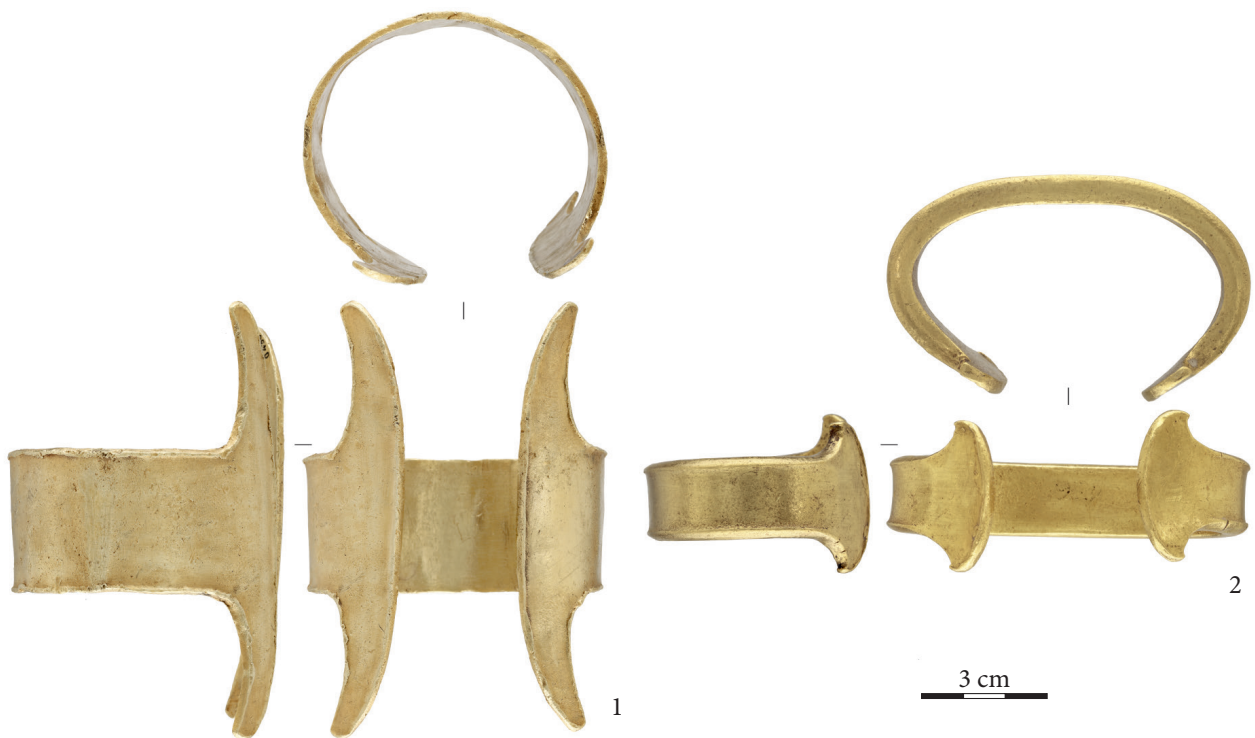


Fig. 13 1: The gold armlet from Abrud (Romania); 2: The gold armlet from Körös area
 (© Hungarian National Museum, Budapest, photos: Iván Jaksity)

13. kép 1: Az abrudbányai (Románia) arany karpánt; 2: A Körös melléki arany karpánt
 (© Magyar Nemzeti Múzeum, Budapest, fotó: Jaksity Iván)

Mozsolics's 1968's concept, these massive gold jewels can be classified into two main groups: Group 1 (Biia, Pipea, Géza Kárász Collection – Transylvania), Group 2 (Bilje, Abrud, Körös area). She evaluated these artefact groups based on stylistic parallels of their chased and embossed patterns. Regarding the Bilje armlet she noted that its decorations can be associated with the ones observed on the A type disc-butted axes and Hajdúsámson-Apa type swords. Amália Mozsolics has also compared the embossed dots of the gold armlet to the pseudo rivets of shaft-hole axes like Şimleu Silvaniei and Hajdúsámson. She determined the Abrud (Fig. 13, 1) and Körös area finds (Fig. 13, 2) as “semi-finished products” which can technologically be related to the Croatian find. Based on the stylistically related objects, she dated the Abrud (Fig. 13, 1), Körös area (Fig. 13, 2) and Bilje gold (Fig. 10) objects to the Hajdúsámson horizon (Br A2) (Mozsolics 1968, 24). The appendix article by Axel Hartmann, at the end of Amália Mozsolics's study, also provided some new results that affected the concept of the research on the interpretation of these ornaments. He determined the elemental composition of the Bilje (ca. 30 wt% Ag; 0.27 wt% Cu, 0.018 wt% Sn) (Fig. 10) and Pipea (ca. 30 wt% Ag,

0.29 wt% Cu, 0.009 wt% Sn) finds (Fig. 14). According to him, both belong to the so-called A3 material group that can be characterized by high silver content (around 25 wt%) and the presence of copper (ca. 0.30 wt%) and tin (0.006 wt%–0.025 wt%). The A3 group is present in the territory of the Carpathian Basin and Axel Hartmann connected the possible provenance of its raw material to Transylvania (Hartmann 1968, 66–67, 72–73).

In his great synthesis of the Middle Bronze Age in Hungary, István Bóna briefly discussed the gold armlets with crescent-shaped terminals. He related some of them (Abrud, Biia, Pipea) to the Wietenberg culture (Fig. 12, 1, Fig. 13, 1, Fig. 14), while others like the Bilje piece (Fig. 10) to the elite of the “Gerjen Group”. One of his main concepts, which probably draws from the results of Amália Mozsolics and Axel Hartmann is that these gold ornaments can be linked to Middle Bronze Age workshops with Aegean-Anatolian connections that relied on the Transylvanian gold mines. In the case of gold armlets, he identified them as the products of the Țufalău workshop that operated in Transylvania (Bóna 1975, 116, 175, 293).

The new discoveries have also greatly contributed to the study of gold armlets with crescent-shaped ter-



Fig. 14 The gold armlet from Pipea (Romania) (© Natural Historical Museum, Vienna)
 14. kép A pipei arany karpánt (Románia) (© Naturhistorisches Museum, Bécs)

minals. Josef Vladár published a bar-shaped bracelet that was excavated in Spišský Štvrtok, Slovakia in 1973. He associated this find with the gold bracelets and armlets and dated the object to the Br B1 (Koszider Period) (Vladár 1973, 311–312, Fig. 64, 4, Fig. 66; Vladár 1978, 60, 69, Fig. 37, Fig. 44). The discovery of this fragment was important as it strengthened the later concept of Tibor Kovács on the Koszider dating, who also classified this object in this group of gold armlets (Kovács 1991). It should be noted that in the recent studies written by Dominika Oravkinová and Jozef Vladár, the authors provided some new information about the Spišský Štvrtok bar-shaped bracelet. According to their study, it originated from a hoard deposited inside house 5/68, but its exact context was impossible to reconstruct. They formulated a more careful opinion regarding its typological identification and connected it to the Middle Bronze Age finds decorated with semi-arch motifs (Vladár, Oravkinová 2015, 434–441, Fig. 14C, 12; Oravkinová, Vladár 2019, 90, 111–112, Fig. 4, 1).

After releasing a picture of the Dunavecse gold armlet (Fig. 11) with a brief catalogue descrip-

tion in his famous book for the public in 1977 (Kovács 1977, 95, Fig. 28), Tibor Kovács has published this emblematic find twice, first in 1991 and later in 2000 (Kovács 1991; Kovács 2000). In his studies, he suggested a new classification for the gold armlets compared to the one by Amália Mozsolics in 1968: Transylvanian Group 1 (Biia, Pipea, Géza Kárász Collection – Transylvania) (Fig. 12, 1–2, Fig. 14), Transylvanian Group 2 (Abrud, Körös area) (Fig. 13, 1), Central Danubian Group 3 (Bilje, Dunavecse) (Figs 10–11). Based on the stylistic connections of the motifs on the Dunavecse armlet that can be associated with finds like the Spišský Štvrtok bar-bracelet, the Nagyrozvágy crescent-shaped pendant and other gold and bronze products, he dated this exceptional ornament and some of its related finds to the end of the Middle Bronze Age, the Koszider Period, which at that time was synchronized with the 15th century BC (Kovács 1991; Kovács 2000, 44–48). According to current results, this period would fall between 1600 and 1450 BC (Kiss et al. 2019). The arguments of Tibor Kovács about the Koszider dating of the



Fig. 15 1: The Kelebia shaft-hole axe; 2: The gold hair ring from Tizzasüly
 (© Hungarian National Museum, Budapest, photo: Ádám Vágó)
 15. kép 1: A kelebiai nyéllyukas balta; 2: A tizzasülyi arany hajkarika
 (© Magyar Nemzeti Múzeum, Budapest, fotó: Vágó Ádám)

Dunavecse find was later accepted by István Bóna (Bóna 1992, 55). It should also be noted that Tibor Kovács embraced the idea (Mozsolics 1968; Hartmann 1968; Bóna 1975, 293) that the gold armlets, like Dunavecse, were the products of the Transylvanian metallurgical sphere, as they show similarities towards that territory (Kovács 1991; Kovács 2000, 44–48) regarding their style and elemental composition (Bilje, Pipea).

Wolfgang David has also formed an opinion on the stylistic connections of the Bilje (Fig. 10) and Dunavecse gold armlets (Fig. 11). Considering the evaluation of these finds, his study on the Mainz belt hook is an important one where he studied and compared the individual elements of these ornaments to the Middle Bronze Age metal products and ceramics (David 2002a, 70–72; David 2002b). In his later work, he analysed in detail the motifs of the Bilje and Dunavecse gold armlets. He distinguished individual elements (e.g., C-shaped spiral, “Kelchspiral”, bulging dots (single and triple dotted lines), volute pair, crescent-shaped or horn-shaped motifs, solar-charge etc.) on certain parts of these objects, and compared them with the decoration of

other Middle Bronze Age metal products like bronze pendants, diadems, and axes. Wolfgang David’s results support the typo-chronological conclusions of Amália Mozsolics, as he related the Dunavecse find to the Transdanubian Encrusted pottery style, while Bilje to the Hajdúsámson-Apa style (David 2003, 40; David 2010, 456–460).

Just a year after the 1968 work of Amália Mozsolics, a different kind of dating and interpretation was proposed by Bernhard Hänsel for the known specimens of that time. He argued that “spiral chains” on the Bilje find (Fig. 10) do not represent the Mycenaean style, but the motif is rather characteristic of the Late Bronze Age and Early Iron Age in the Southern Balkans and Italy. Bernhard Hänsel has also identified the central motif of the Bilje find, as a “solar barge” combined with a “double tree motif” which, according to his concept, is more likely related to the Late Bronze Age. As for the dating of the Bilje find he suggests that it belongs to the “older Urnfield period” along with the Firiteaz and Ófehértó rings, which are the typological developments after the “late Middle Bronze Age” bracelets with double spiral terminals like Kiskundorozsma (Hänsel 1969, 82–84).

As I previously stated, dating these gold armlets to later periods was not without precedents (Hampel 1892, 375; Hoernes 1906, 79; Ebert 1908; Nestor 1933, 125; Roska 1942, 12, 226; Roska 1944, 53, 63, 66; Párvan 1926, 338–341, 679–680) but Bernhard Hänsel's views had the most influence.

Bernhard Hänsel's conclusions have received different reactions. Tibor Kovács has completely rejected the idea that the Bilje armlet can be dated to the Late Bronze Age or to the Early Iron Age (Kovács 1991, 18–19). On the other hand, Tibor Kemenczei slowly adopted this line of thought. In 1995, he defined the Dalj and Boarta pieces (*Fig. 16*) as products of the latest development phase of gold bracelets with spiral terminals, based on new decoration elements, like encircled convex knobs and a line of embossed dots. He also pointed out that these gold ornaments have continuously been manufactured since the Middle Bronze Age until the Early Iron Age. In contrast to the previously discussed Aegean and Scandinavian relations, Tibor Kemenczei turned his attention to the East and described these Carpathian pieces as the forerunners of the North Caucasian ones (Kemenczei 1995, 333–334). Unlike in the exhibition catalogue of the HNM's prehistoric gold artefacts in 2000, where he dated the gold armlets to the first half of the 2nd millennium BC (Kemenczei 2000, 121), he proposed a completely different dating in 2005. According to this concept, zigzags, wavy band lines and embossed dots surrounded by concentric circles are the important decorative elements that support the Late Bronze Age or Early Iron Age dating of the Bilje (*Fig. 10*), Biia (*Fig. 12, 2*), Boarta (*Fig. 16, 2*) and Dalj gold armlets (*Fig. 16, 1*). The dating of the Pipea (*Fig. 14*) and the Transylvania (Géza Kárász Collection) (*Fig. 12, 1*) armlets was inconclusive, as he cited some related finds from the Middle Bronze Age, Late Bronze Age and Early Iron Age dating as well. In the case of the Abrud (*Fig. 13, 1*) and Körös area (*Fig. 13, 2*) objects Tibor Kemenczei could not date them precisely due to the lack of analysable motifs, but he suggested an Early Iron Age chronology for both artefacts. However, he cited numerous arguments to date the Dunavecse find (*Fig. 11*) to the Early Iron Age. He emphasized the uncertainties surrounding the typo-chronological evaluation of this unique find. Tibor Kemenczei highlighted the presence of ribs, embossed dots, zigzag motifs, and lines of dots and grooves on the Dunavecse armlet (*Fig. 11*) which he determined as characteristic motifs of the Early Iron Age. He also suggested that the star-shaped motif of

the Dunavecse armlet could be related to the Caucasian metalworks of the 9th–8th century BC. Regarding the Bilje gold armlet (*Fig. 10*), he pointed out that the parallels of the encircled dots on this find and on the Dalj and Michałkow finds are not only connected to the Middle Bronze Age objects but also to the Late Bronze Age and Early Iron Age finds (Kemenczei 2005, 81–82).

One of the conclusions of this review is that currently there is no consensus on the relative chronological position of the gold armlets with crescent-shaped terminals. These exceptional ornaments have been dated from the end of the Middle Bronze Age (Hajdúsámson 2000/1900–1700/1600 BC or Koszider Horizon 1600–1450 BC) to the Late Bronze Age (1450–800 BC), the Early Iron Age (800/750–400 BC) and even to the Late Iron Age (400 BC–9 AD) in Hungary. The uncertainty that surrounds the dating of these ornaments can perhaps be best illustrated by the example of the two latest publications that were written for the public. The chronological position of the Dunavecse (*Fig. 11*), Biia (*Fig. 12, 2*), and Kárász Collection – Transylvania armlets (*Fig. 12, 1*), as well as the bracelets and armlets with crescent-shapes, were still uncertain in the 2015 artistic catalogue of Ádám Vágó, where they were carefully described as finds dated between the Middle Bronze Age and Early Iron Age (V. Szabó 2015, 130). In the exhibition catalogue of the Natural Historical Museum in Vienna, Austrian scholars have also provided a careful relative chronological dating for this find and concluded that the solar barge motif on the Bilje gold armlet (*Fig. 8*) is an argument in favour of the Late Bronze Age (“1000–800 BC”) dating, while they also emphasized that several researchers date this find to the later phase of the Middle Bronze Age (“1500 BC”) (Kern et al. 2017). These conclusions represent a careful navigation between the thoughts of Bernhard Hänsel (Hänsel 1969), Amália Mozsolics (Mozsolics 1968), Tibor Kovács (Kovács 1991; Kovács 2000), David Wolfgang (David 2002a; David 2002b; David 2003; David 2010) and Tibor Kemenczei (Kemenczei 2005). In contrast, some researchers – including almost all the above-mentioned ones – had a specific opinion on these gold ornaments and mainly dated them by the fine comparison of formal features, characteristics, and the motifs, which is currently the only possible way to evaluate them from a relative chronological point of view. Regarding this approach, I believe that there are four essential issues, which may result in

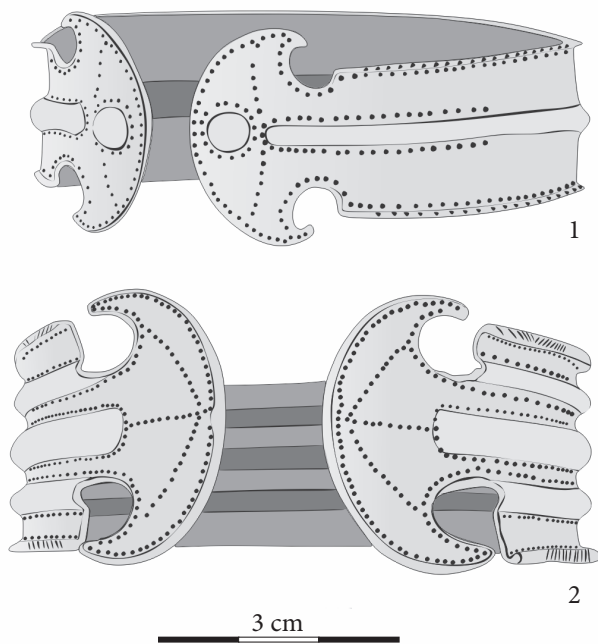


Fig. 16 1: The Early Iron Age gold armlet from Dalj (Croatia); 2: The Early Iron Age gold armlet from Boarta (Romania) (Drawings: J. G. Tarbay after Ebert 1908, Fig. 116; Constantinescu 2012, Tab. 1)

16. kép 1: A dályai (Horvátország) kora vaskori, arany karpánt; 2: A mihályfalvai (Románia) kora vaskori, arany karpánt (Rajzok: Tarbay J. G. Ebert 1908, Fig. 116; Constantinescu 2012, Tab. 1 nyomán)

different typo-chronological conclusions, apart from the insurmountable obstacle of the almost complete lack of context.

1) Many researchers date these finds based on the “universal” symbols that were constantly present between the end of the Middle Bronze Age and the Early Iron Age. Such are the solar barges, sun or celestial body depictions and spiral loop patterns (waves) (Hänsel 1996, 82–84; Kemenczei 2005, 81–82). In my view, dating by these universal and continuously present motifs is not entirely the right approach, as anyone can argue for and against any kind of relative chronological position as they seem fit to their hypotheses. Parallels can certainly be found in any period.

2) The second main problem is that most of the studies do not rely and reflect on each other. Therefore, discourse can rarely be seen. There are also several overlaps, repetitions of previous ideas, and negligence of former results. In other words, there is a lack of synthesis of thoughts, instead, individual, and usually independent opinions dominate research.

3) It is also a general trend that finding parallels is arbitrary. a) Researchers involved in the discussion

of these finds tend to look parallels that best fit their dating concept, whether it's Middle Bronze Age, Late Bronze Age or Early Iron Age. b) Parallels are also selected from a quite wide geographical area. Since these gold armlets are clearly elite objects, broader comparison might be justified, but the geographically closest stylistic parallels from the Carpathian Basin and the Northern Balkans should be given priority in the analysis.

4) Except David Wolfgang's works (David 2002a; David 2002b; David 2003; David 2010), the systematic approach is missing regarding the stylistic analysis. Usually, one or more motifs are highlighted while the rest of them are left undiscussed.

Even if all four points are considered, the most essential problem is the almost complete lack of datable contexts. We cannot even rely on finds such as the Biia armlet (Fig. 12, 2), in which case the affiliation of the “accompanying finds” is highly questionable (See Soroceanu 2008, 228–230, fn. 219–222). The Boarta find (Fig. 16, 2) and its closely related analogy from Dalj (Fig. 16, 1) seem to be the products of the Early Iron Age, as the former was found together with some well datable finds (Nestor 1934). However, these two ornaments differ significantly from the rest of the armlets with crescent-shaped terminals, and they probably represent a much later development phase within this ornament group. This also points out the fact that gold armlets may not be a chronologically and technologically homogenous group, but rather a “forced” typological one and they are simply connected to each other by their material (gold) and the special shape of their terminal. Therefore, individual, in-depth *analysis of each ornament* from a different point of view would be essential to provide a more reliable synthesis of their relative chronology and inner connections. To precisely date the ten specimens known so far, the entire array of finds should be examined by a *comparative metalwork production and use-wear analysis*, by the *analysis of elemental composition and provenance*, as well as by *field research and excavation of the find-spots* if they are identifiable.

Relative dating of the Tápióbicske armlet

Although its position can be accurately located by GPS coordinates, the Tápióbicske gold armlet can still be considered a stray find, which was probably found in a secondary position because of ploughing. In this section, I will solely focus on the evaluation of the Tápióbicske armlet by drawing conclu-

sions from the results of previous research, while considering the above-discussed critical points and by systematically evaluate formal and stylistic parallels of the object.

Shape

The Tápióbicske (Figs 4–9) and the Bilje gold armlets (Fig. 10) have nearly identical forms. Each ornament is relatively large, has a ribbed back, and two wide crescent-shaped terminals. The main formal difference between the two is that the Bilje armlet has only three roof-shaped back ribs, while the other one has four. Their thick, hammered sheet bodies differentiate them from the Biiá (Fig. 12, 1), Géza Kárász Collection – Transylvania (Fig. 12, 1) and Pipea specimens (Fig. 14), which is the reason why Amália Mozsolics and Tibor Kovács classified them into different groups (Mozsolics 1968; Kovács 1991; Kovács 2000). The Abrud (Fig. 13, 1) and Körös area finds (Fig. 13, 2) have similar forms, which may resemble the ones from Bilje (Fig. 10) and Tápióbicske (Figs 4–9), but they are much smaller in size. Therefore, it is hard to relate them precisely to the studied find. Unlike Amália Mozsolics (Mozsolics 1968, 23), my goldsmith-restorer colleague Balázs Lukács and I are on the opinion that they were simply undecorated finished products due to their wearable size and hammered surfaces (Tarbay, Lukács 2022). Three armlets with crescent-shaped terminals from Boarta (Fig. 16, 2), Dalj (Fig. 16, 1) and Dunavecse (Fig. 11), are also decorated with ribs. The first two specimens have a relatively thick, rectangle-shaped body, which becomes towards the terminals gradually smaller, and their terminal is semicircle-shaped instead of the characteristic crescent form. Finally, the cross-section of their back ribs is rather circular, which suggests the usage of a different tool for their manufacture. Based on these typological differences, I find it unlikely that these Early Iron Age ornaments could be related to the Tápióbicske or the Bilje finds (Kemenczei 2005, 81–82). It is also questionable whether the Dunavecse armlet is comparable to them based on the shape of the objects. It has a completely individual form; its back ribs and terminals do not resemble the Bilje and Tápióbicske pieces.

Patterns

On the Tápióbicske armlet there are a total of 8 patterns that can be identified and compared to other

gold and bronze products (Figs 4–9, Fig. 17). (For the techniques of these motifs see Tarbay, Lukács 2022).

Pattern 1 (“central motif”)

The central motif is situated in the middle of the crescent-shaped terminals of the Tápióbicske armlet. At its centre, an encircled embossed dot stands with two wide tendrils comprising bundles of lines on one side. On the other side, it is framed by a tendril with symmetric terminals consisting of bundles of lines. Between the tendrils in a semi-circular zone a bundle of lines, a line of chased pattern and a line of curves with dots are visible (Fig. 17, 1, 6a–6b).

The central motif has only one fine parallel on the Bilje find (Fig. 10). It depicts the same ornament in a less elaborate form. This is usually identified as a “solar barge” motif (Hänsel 1969, 83–84; David 2002a, 71; David 2010, 457–458) and, as such, it can be related to various products between the Middle Bronze Age and Early Iron Age. This pattern of the two gold armlets is still the finest parallel to each other.

Among the bronze products, the sheet metal belt from Szentes should be highlighted, too. According to the Inventory Book of the HNM, it was sent by the Magyar Királyi Töltésépítő Hivatal (the officials responsible for the building of dams at the Tisza river) in Szentes along with numerous stray finds found during the construction of the “4th dam section” at the Tisza River (Inventory Book of the HNM 1882.140.82; Hampel 1882, 308–309). The motif close to one of the terminals of the belt looks similar to the one on the Bilje (Fig. 10) and Tápióbicske gold armlets (Willvonseder 1935, 225; Willvonseder 1937, 137; Kilian-Dirlmeier 1975, 101, Pl. 38, 399, Pl. 39, 399) (Figs 4–9). However, the dating of the find remains uncertain due to the unsecure context. The general chronological position of the Sieding-Szeged type sheet belts supports the idea that the Szentes belt may depict a further development, probably of the Tumulus culture period.

Pattern 2 (Br B1)

The *central motif* of the Tápióbicske armlet is surrounded by small *encircled, chased dots* which are determined as *Pattern 2* here (Fig. 17, 2). An identical pattern is also visible around the central motif of the Bilje gold armlet (Fig. 10).

The ornament also appears on bronze pendants in a less identical form. Fine examples are known from Košice-Barca (hoard, Br B1/Koszider period) (Furmánék 1980, 16–17, Pl. 6, 117; David 2002b, Pl. 98, 4),

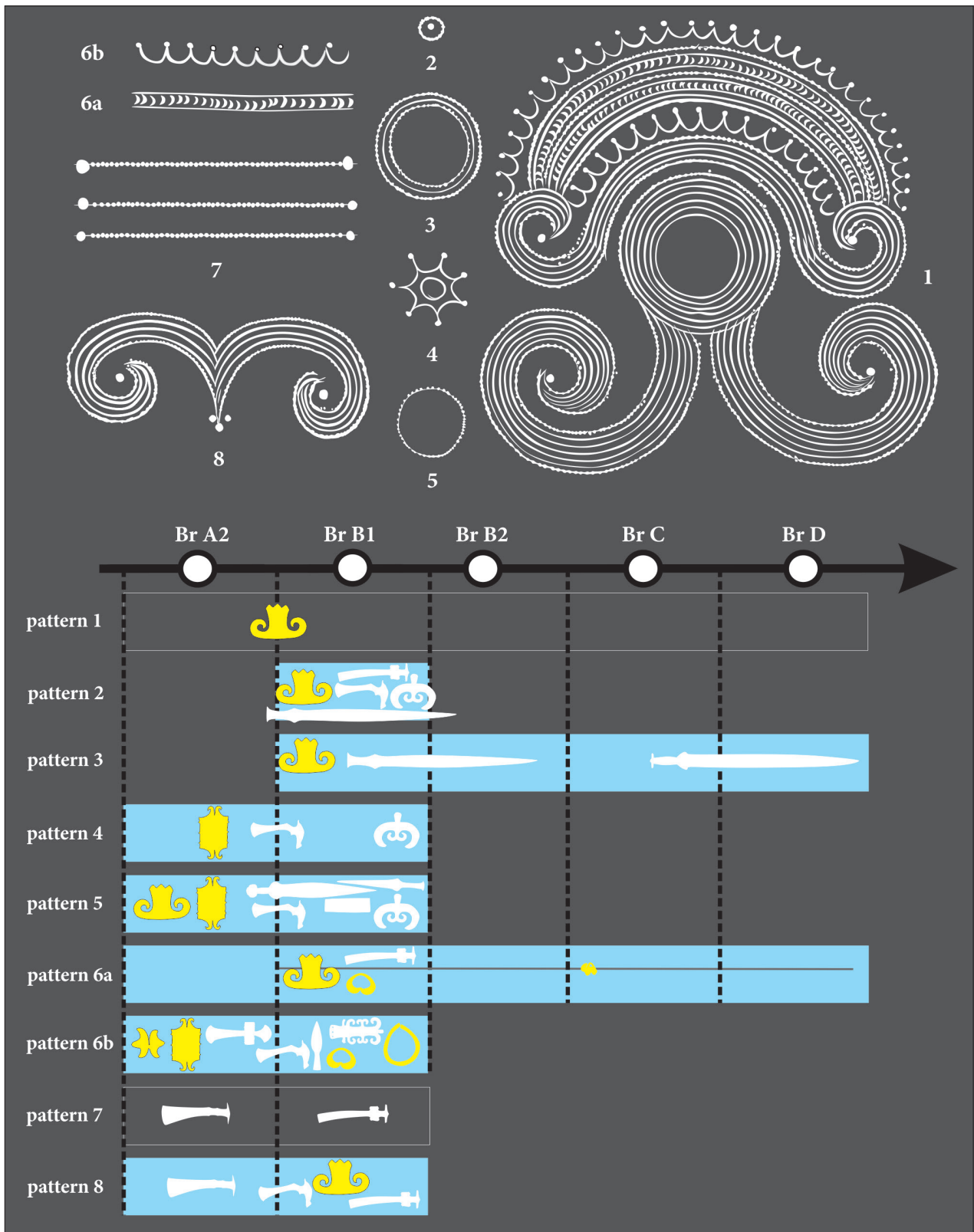


Fig. 17 The eight patterns on the Tápióbscske find and their relative chronological position (drawings: J. G. Tarbay)

17. kép A tápióbscskei arany karpánt nyolc mintája és relatív kronológiai helyzetük (rajz: Tarbay J. G.)

Nižná Myšľa (David 2002b, 490, Pl. 98, 5), Spišský Štvrtok house 24/71 (Br A3–Br 1) (Oravkinová, Vladár 2019, 97–100, 107, Fig. 9, 5), Budapest-Remete-

hegy (hoard, Br B1/Koszider period) (Mozsolics 1988, Fig. 3, 1; Jankovits 2017, 104, no. 1260) and Nagyrozváy (Koós 1988, Fig. 1; Jankovits 2017,

104, no. 1262A–B). Pattern 2 was also present on the shafts of stray find shaft-hole axes from Ernei (Vulpe 1975, Pl. 15, 239; David 2002b, 478, Pl. 64, 1) and Mezőkomárom-Pusztaszentmihályfa (Kovács 1977, 95, Fig. 39; David 2002b, 465, Pl. 63, 2). The upper blade part of one of the Zajta swords ('hoard', Br B1/Koszider period) is also decorated with this motif (Mozsolics 1967, 51–53, 159–160, 178–179; Kemenczei 1991, Pl. 3, 11). This pattern type is also present on a Koszider period disc-butted axe from the McAlpine Collection (Szeverényi 2009, Fig. 1) and on another axe from 'Turda' (David 2002b, 482, Pl. 38, 1).

Pattern 3 (Br B1–Br D)

Pattern 3 consists of *three, triple encircled, large, embossed dots* (Fig. 17, 3), repeated six times on the terminals of the armlet. Again, the closest technological and stylistic parallel is the Bilje armlet on which these lines of dots were placed in the same position (Fig. 10). It could be argued that the Biia armlet would depict the same motif (Fig. 12, 2), but the execution of this pattern is different, as the dots were cast rivets (Mozsolics 1968, 48, Pl. 20, a–b), and the encircled chased pattern is lacking.

Encircling bulges with additional chased circles of dots is also observable on metal-hilted bronze swords, dated between the end of the Middle Bronze Age and the first half of the Late Bronze Age (Br D). A fine example is the Au am Leithagebirge sword from Austria (stray find) the pseudo rivets of which are decorated in this way (Krämer 1985, 9, Pl. 1, 1; David 2002b, Pl. 95, 4). This pattern is also visible on other early metal-hilted swords found as stray finds in Absam bei Hall (Krämer 1985, 11, Pl. 1, 4), Achenrain (Krämer 1985, 13, Pl. 2, 10: here, the exact number of encirclings is unknown.), and Völs (Krämer 1985, 11, Pl. 1, 5). This motif also appears on numerous Late Bronze Age (Br D) Riegsee type swords and other different sword types dated between the periods of the Tumulus and Urnfield cultures (e.g., Krämer 1985, Pl. 7, 31, 33–34; Kemenczei 1991, Pl. 10, 57, Pl. 12, 60–61, Pl. 13, 68; von Quillfeldt 1995, 20–71). *Pattern 3* also appears on the Sieding-Szeged type belts, as on the previously mentioned specimen from Szentes (Kilian-Dirlmeier 1975, 101, Pl. 38, 399, Pl. 39, 399).

Pattern 4 (Br A2–Br B1)

At the ends of the Tápióbicske gold armlet, *seven-pointed stars* are visible *surrounding a circle* (Fig.

17, 4). It is highly possible that there were some simplified celestial body representations. The best *Pattern 4* analogues can be seen on the Dunavecse gold armlet (Fig. 11). One of the motifs is a star, the edges of which are regular and not curved between the vertices. The other symbol is a complex celestial body motif where an embossed dot is similarly enclosed, like on the Tápióbicske armlet (Figs 4–9).

The best parallel for this pattern type among bronze products is the Kelebia shaft-hole axe (Fig. 15, 1) where *Pattern 4* appears on the edges and on the upper part of the weapon. This object comes from an incompletely acquired hoard dated to the Hajdúsámson horizon (Br A2) by Amália Mozsolics (Mozsolics 1951, 83; Mozsolics 1967, 142–143, Pl. 5, 2; David 2002b, 470, Pl. 66, 3). Many researchers have related the star-shaped patterns of the Dunavecse find (Fig. 11) to the Nagyrozvágy pendant (Koós 1988, 75, Fig. 1; Kovács 1991, 18–19; Kemenczei 2005, 81). This connection may be possible for this gold ornament, but it slightly differs from *Pattern 4* of the Tápióbicske gold armlet (Figs 4–9). It should also be noted that a much simpler version of *Pattern 4* is known on the octagonal-shaped hilt of a sword from Breitenbach, Austria. Unfortunately, this specimen does not have a datable context (Krämer 1985, 15, Pl. 3, 13A).

Similar patterns can be found on ceramics from the Middle Bronze Age in East Hungary and Transylvania (Koós 1988, 75). The star-shaped pattern is one of the widest distributed and longest used symbols between the Middle Bronze Age and the Early Iron Age. Several versions of it can be seen on numerous objects made using different techniques and different styles throughout these periods (Kemenczei 2005, 81–82, fn. 23–25).

Pattern 5 (Br A2–Br B1)

Near to the terminal of the armlet, an encircled embossed dot appears, which can be identified as *Pattern 5* (Fig. 17, 5). This pattern is visible along the middle section and terminal part of the Dunavecse specimen (Fig. 11), and it is the central motif of the Bilje armlet (Fig. 10; David 2002a, 71). Tibor Kemenczei also linked the Dalj armlet to the group of these finds (Fig. 16, 1; Kemenczei 2005, 81), but its execution and the fine technological marks of the gold armlet clearly differ from the two above mentioned ones.

The embossed dots appear to be identical to the cast pseudo rivets on the handles of metal-hilted and solid-cast swords and daggers, as previously noted.

This decoration style is also observable along the wider sides of the different shaft-hole axe types, crescent-shaped pendants, and diadems (Mozsolics 1968, 24; Kovács 1991, 14; David 2002a, 71, fn. 9–10). The swords with this pattern were dated between the Br A2 and Br B1 and the Br B1/Br B2. Notable examples of swords are known from Apa (Br A2) (Br B1) (Bader 1991, 38–39, 40–51, Pl. 5, 25, Pl. 6, 26; Soroceanu 2012, 17–20, Pl. 1–2), Dunavecse (stray find) (Kovács 1994, 51–54, Fig. 1–2; Kovács 1995, 183, Fig. 7), Hajdúsámson (Br A2) (Mozsolics 1968, 139–140; Kemenczei 1991, 8–9, Pl. 2, 1), Oradea (Br A2) (Bader 1991, 39, 40–51, Pl. 6, 27; Soroceanu 2012, 56–58, Pl. 19, 17), Șimleul Silvaniei II (Br B1 or Br B1/Br B2) (Bader 1991, 40–51, 55–56, Pl. 8, 31; Soroceanu 2012, 106, Pl. 33, 28) and Téglás (Br A2/Br B1) (Sz. Máthé 1971, 61, Fig. 1; Kemenczei 1991, 8–9, Pl. 2, 3).

Unfortunately, the shaft-hole axes depicting this ornament are stray finds. A fine example is an axe from Nehoiu, Romania, which shows an identically decorated pseudo rivet along its shaft (Vulpe 1970, 55, Pl. 15, 240; David 2002b, 483, Pl. 60, 3). Another example is the broken shaft-hole axe from the Ráth Collection, on which a line of three similarly encircled knobs is visible (Hampel 1886b, Pl. 32, 5; David 2002b, Pl. 65, 2a). The pendant from Zsadány-Orosipusztá can also be cited which was found in a burial dated to the Br B1 (Mozsolics 1967, 154; David 2002a, 475, Fig. 20, 1) or the Ócsa ‘diadem’ which could also be from the same period (Topál 1973, 3, 12–17, Fig. 6, 1; David 2002b, 471, Pl. 157, 2).

As Tibor Kovács has already pointed out, this pattern is also present on numerous clay vessels from different cultural groups (e.g., Füzesabony, Otomani, Maros) as a decorative element, and its chronological position covers the time between the second half of the Middle Bronze Age and the first half of the Late Bronze Age (Br A2–Br C) (Kovács 1991, 13–14; David 2002a, 71, fn. 13).

Pattern 6a (Br A2–Br C/Br D)

On the edges, the Tápíóbske gold armlet is framed by a simple pattern consisting of *hatched bundles of lines (Pattern 6a)* (Fig. 17, 6a). The same framed pattern can be observed on the Bilje gold armlet (Fig. 10). Perhaps the closest parallel to this decorative element is the golden hair-ring from Tizsasüly (Hampel 1893, 344, 366; Mozsolics 1949, 25; Kovács 2000, Fig. 16–16a) (Fig. 15, 2). On the surface of this wide heart-shaped specimen, a similar framing decoration can be observed. This large hair-ring was part of

a hoard, purchased by the HNM from János Gulyás in 1893, along with five smaller heart-shaped hair-rings that were attached to this specimen as a chain (Inventory Book of the HNM 1893.50). Based on related finds, this hair-ring type can be dated to the Koszider period (Br B1) (See additional literature in Szathmári et al. 2019, 300). Besides the Tizsasüly hair-ring, further parallels to *Pattern 6a* are known among the decorated pieces of special boat-shaped hair-rings that were distributed in the territory of the Northeast Carpathian Basin, Northern Balkans, and Transylvania. Recently, these ornaments have been studied by Ion Bejinariu and Alin Henț (Bejinariu, Henț 2020). Identically executed patterns as 6a of the Tápíóbske and Bilje gold armlets can be observed on certain specimens that belong to this group. Most of these ornaments were found in Transylvania from the following sites (Bejinariu, Henț 2020, 78–83, Pl. 2): Bijelo Brdo (Burial 121, Br B1) (Brunšmid 1904, 63–64, Fig. 25, 1; Hänsel 1968, 113–114, Pl. 14, 31), Șomcutu Mic (stray find) (Popescu 1956, 201–205; Kovács 1976, 64–65; Bejinariu, Henț 2020, 76–77, Pl. 1), Pecica (hoard/burial/stray finds, Br B1, Koszider Period) (Inventory Book of the HNM 1883.16a.1; Mozsolics 1973b, 168–169, Pl. 4, 1–2; Kemenczei 2000, 121, Fig. 34, 1), Târgușor (stray find) (Roska 1942, 29, no. 124, Fig. 22), Viničky (Seleška) (settlement) (Mihalik 1907, 167–168, Pl. 3, 16a–b; Eisner 1933, 294), Tiszafüred-Majoroshalom (Burial 282, relative chronological group B of the Tiszafüred cemetery/‘Tumulus culture – 14th–13th c. BC’) (Kovács 1975, 46; Kovács 1976, 58, Fig. 1, 1), Tiszafüred-Fertődihalom, Burial D (early phase of the Tumulus culture) (Kovács 1975, 46; Kovács 1976, 58, Fig. 2, 1), unprovenanced hair-rings from the collection of the HNM (Kovács 1976, 58, Fig. 4, 1–2, Fig. 5). This type of decoration cannot be precisely dated, as it already appeared at the end of the Middle Bronze Age (Koszider, Br B1) and was used until the beginning of the Late Bronze Age (Bejinariu, Henț 2020, 76).

This type of pattern is also quite frequent among Koszider period bronze products, like the disc-butted axes found between the Carpathian Basin and West Central Europe (e.g., David 2002b, Pl. 36, 1, Pl. 37, 1–2, Pl. 38, 1, Pl. 39, 1–3, Pl. 40, 1–2; Szeverényi 2009, Figs 1–2).

Patterns 6b (Br A2–Br B1)

Pattern 6b is part of the framing motif (*Pattern 6a*). It consists of a *line of U-shaped chased patterns with dots* (Fig. 17, 6b). This pattern continues towards the

body of the ornament. *Pattern 6b* is used as a frame on the Dunavecse armlet (*Fig. 11*) and the find from the Transylvania (Géza Kárász Collection) (*Fig. 12, 1*). A decorative element which also seems to be like 6b is present on the Biia bracelet, but it was made by a different technique and somewhat differs stylistically (*Fig. 12, 2*).

First the bar-shaped gold bracelet from Spišský Štvrtok (hoard from unsecure context, Br A3–Br B1/Br B2) should be highlighted as it seems to be decorated with a similar pattern (Vladár 1973, 311–312, *Fig. 64, 4, Fig. 66*; Vladár 1978, *Fig. 44*; Kovács 1991, 11–12; Vladár, Oravkinová 2015, 436, *Fig. 14C, 12*; Oravkinová, Vladár 2019, 90, 111–112, *Fig. 4, 1*). The above discussed hair ring from Tizsasüly (*Fig. 15, 2*) should also be mentioned again (“hoard”, Br B1) which has a similar pattern consisting of U-shaped chased motifs. The only difference between this object and the Tápióbicske find is the lack of chased dots on the top of the U-shaped motifs. It should be noted that Amália Mozsolics already found connections between hair-rings and gold armlets in the case of the Bilje find (See Mozsolics 1949, 24–25) (*Fig. 10*). This motif also appears on an unprovenanced hair-ring from the collection of the HNM (Kovács 1976, 58–59, *Fig. 4, 3*).

Pattern 6b is also visible on several bronze objects, particularly shaft-hole axes (Mozsolics 1949, 25) like Dunaalmás (stray find/burial) (Mozsolics 1967, 133, Pl. 6, 4; David 2002b, 464, Pl. 67, 2) and Kelebia (hoard, Br A2) (Mozsolics 1967, 142–143, Pl. 5, 2; David 2002b, 470, Pl. 66, 3) (*Fig. 15, 1*). This motif appears along the shafts of disc-butted axes as well, e.g., Apa (hoard, Br A2/Br B1) (David 2002b, Pl. 17, 4–5; Soroceanu 2012, 17–20, Pl. 5, 1) and Sajólád/Szendrőlád (stray find) (Mozsolics 1967, 158, Pl. 22, 1; David 2002b, 472, Pl. 27, 4) and along the wider sides of the eponymous Hajdúsámson axe (Br A2) (Mozsolics 1967, 139–140, Pl. 9, 3; David 2002b, Pl. 117, 4). An unprovenanced spearhead from Hungary should also be mentioned, which is currently kept in the collection of the RGZM in Mainz. The shaft of this spearhead is decorated with identical patterns as 6b (Jacob-Friesen 1967, 373, no. 1601, Pl. 11, 1). This motif frames the cast belt buckle from Grave no. 88 of Dunaújváros-Duna-dűlő, too. As Wolfgang David has already pointed out, not only the pattern but also the overall formal taste of these buckles resemble the Bilje find (and naturally, the piece from the Tápióbicske armlet) (*Fig. 10*). According to Magdolna Vicze, this burial can be dated

to the Early Koszider phase of the cemetery (Kilian-Dirlmeier 1975, 30, Pl. 4, 33; David 2010, 460–461; Vicze 2011, 43–45, 130, 177, Pl. 171, 5).

Tibor Kovács noted that this pattern is a characteristic of Hajdúsámson-Apa and Koszider metallurgy’s bronze, bone, and gold products (Kovács 2000, 42). It can be added that this pattern survived through the Late Bronze Age, usually on swords, daggers, belt hooks and sheet belts. Although, in a finer typological sense they clearly differ from their Middle Bronze Age predecessors.

Pattern 7 (‘Br A2–Br B1’)

The outer ribs of the Tápióbicske gold armlet are decorated with a special motif consisting of *three tendrils (Pattern 8) between parallel lines terminating in dots (Pattern 7) (Fig. 17, 7)*. I am not aware of any exact parallels between *Pattern 7* among the Middle Bronze Age, Late Bronze Age, and Early Iron Age gold finds. However, a similar ornament can be observed on the Br A2 and Br B1 disc-butted axes near the cutting edge or at the back of their blade (e.g., David 2002b, Pl. 11–12, Pl. 18, 2, 5–6, Pl. 35, 1).

Pattern 8 (Br A2–Br B1)

The *tendril motif* on the edge of the Tápióbicske armlet’s body (*Fig. 17, 8*) is identical to the terminal and back rib patterns of the Bilje armlet (*Fig. 10*). The rest of the known gold armlets have no such pattern.

Pattern 8 is present on several Middle Bronze Age objects, although the style has some variations on each object (Mozsolics 1951, 83). First the Kelebia axe (hoard, Br A2) (*Fig. 15, 1*) should be emphasized which has already been mentioned as a fine parallel for the Tápióbicske armlet (Mozsolics 1967, 142–143, Pl. 5, 2; David 2002b, 470, Pl. 66, 3) (*Figs 4–9*). *Pattern 8* also appears on other shaft-hole axes such as Mezökomárom-Pusztaszentmihályfa (stray find) (Kovács 1977, 95, *Fig. 39*; David 2002b, 465, Pl. 63, 2), Cegléd-Öreghegy (burial, Br A2/Br B1) (Mozsolics 1967, 132, Pl. 6, 2; David 2002b, 468, Pl. 66, 1), Szirmabesenyő (stray find) (Mozsolics 1967, 167, Pl. 5, 1; David 2002b, 472, Pl. 66, 2), Megyaszó (Burial 2, Füzesabony culture, Br A2) (Bóna 1975, 150, 156, Pl. 182, 1; David 2002b, 470, Pl. 62, 2), Tiszafüred-Majoroshalom (Burial B115, Br A2) (Kovács 1995, 175–176, *Fig. 4, 1*; David 2002b, 473, Pl. 59, 4; David 2020, 89), Nehoiu (stray find) (Vulpe 1970, 55, Pl. 15, 240; David 2002b, 483, Pl. 60, 3), Ráth Collection (Hampel 1886b, Pl. 32, 5; David 2002b, Pl. 65, 2) and an unprovenanced axe from Hungary (David 2002b, Pl. 64, 2).

Pattern 8 can also be observed on some disc-butted axes from the early and the later development phase of this weapon group. Two undatable stray finds can be mentioned as examples from Cajvana (Ignat 1981, 137–138, Fig. 3; David 2002b, 483, Pl. 15, 4–5) and Mirosławice (‘Rosenthal’) (Hampel 1896, Pl. 251; David 2002b, Pl. 40, 1; Gedl 2004, 35, Pl. 5, 41). The back of the disc-butted axe from the eponymous Hajdúsámson hoard (Br A2) has an identical pattern, too (Mozsolics 1967, 139–140, Pl. 9, 1c, 3c). The motif appears along the wider sides of the disc-butted axe from the burial of Letkés. In this case, the axe can be dated to the Br B1 (Kemenczei 1988, 17–18; David 2002b, 470, Pl. 49, 2). A similar pattern can be seen on an axe from the McAlpine collection (Szeverényi 2009, Fig. 2). One of the swords from the Apa hoard (Rei Br A2/Br B1) has an identical tendril motif at the upper part of its blade (Bader 1991, 38–39, Pl. 5, 25; Soroceanu 2012, 17–20, Pl. 1). A stylistically changed variant of this motif is also present on a Sieding-Szeged type bronze belt deposited around the Ha A1 in the Aiud hoard. However, it can be assumed that this is an out-of-time object which was probably made around the Br B and selected for a younger hoard for deposition (Rusu 1981, Fig. 9; Hansen 1994, 240).

Koszider Armlet

It can be concluded that the stylistic parallels of the Tápióbicske gold armlet can be found among the products dated to the end of the Hungarian Middle Bronze Age and the beginning of the Late Bronze Age. The parallels of the eight patterns can primarily be connected to the Br A2–Br B1 (*Patterns 3–8*), while some (*Patterns 3, 6a*) also appear on finds dated to the beginning of the Late Bronze Age (Br C/Br D). *Pattern 2* is primarily characteristic of the Br B1 (Fig. 17, Fig. 18). Thus, from the two periods, the possible time of manufacture and deposition of the Tápióbicske gold find was indeed during the Middle Bronze Age. Some parallels of gold and bronze which show the combination of different patterns are worth further emphasis.

Among the gold objects, it is no doubt that the Bilje (Fig. 10) find is the closest parallel of the Tápióbicske gold armlet. The shape of these ornaments is almost completely identical. However, there are some differences in their size and in the number of their ribs. The Bilje item has six similar patterns (*Patterns 1–3, 5–6a, 8*) out of ten. Minor differences

can only be observed in the position, elaboration, technique, and in the execution of some patterns. For instance, the *central motif* of the Bilje armlet lacks additional decorative elements compared to Tápióbicske. The terminals of this ornament are decorated with *tendrils (Pattern 8)* instead of a celestial body motif (*Pattern 4*). Another difference between the two gold armlets is that the terminals of the Bilje find are decorated with two encircled concave dots instead of a convex dot. The outer ribs of this object are decorated with a wavelike pattern consisting of curves and tendrils. The central part is decorated with a similar but simpler framing motif (*Pattern 6b*) than the one from Tápióbicske and at its centre two antithetical tendrils are visible (*Pattern 8*). The differences are much smaller than the similarities. In my opinion, it is very likely that the objects that were found roughly 250 kilometres apart could have originated from the same workshop and probably made by the same craftsman. Despite the obvious similarities, this assumption is worth controlling in the future with an in-depth analysis of craft traces, elemental-composition, and provenance analysis of their raw material. The other gold ornament which is closely related to the Tápióbicske piece is the Dunavecse armlet (Fig. 11), which was dated to the Koszider horizon by Tibor Kovács (Kovács 1991). In fact, as a stray find, it has no dating value, just like the Bilje gold armlet (Fig. 10). On this ornament, the combination of three patterns (*Patterns 4, 5, and 6b*) can be observed. Furthermore, a particularly important gold parallel is the large, decorated hair-ring from the Br B1 gold hoard found at Tizzasüly (Fig. 15, 2). This piece of jewellery has the combination of *Patterns 6a and 6b* which is a strong argument for dating the object to the Koszider period. Another group of gold hair-rings, the so-called boat-shaped pieces, are also worth mentioning. The unprovenanced specimens kept in the HNM, the Bijelo Brdo (Br B1) and the Tiszafüred-Fertődihalom (‘Middle Bronze Age’, early phase of the Tumulus culture), show a combination of *Patterns 2 and 6a*. The relative chronological position of these finds supports the dating of the Tápióbicske piece to the Br B1.

There are a considerable number of related bronze objects, e.g., shaft-hole axes, disc-butted axes, swords, spearheads, belt buckles and diadems, etc., many of which can be associated with the Br A2 and Br B1. Some axes have identical pattern combinations like the Tápióbicske gold armlet, such as the Br A2 Kelebia (*Patterns 4–5, 6b*) (Fig. 10, 1), Br A2 Hajdúsámson

(*Patterns 6b, 8*) and some undatable stray finds (e.g., Nehoiu, *Patterns 5, 8*; Mezőkomárom, *Patterns 2, 8*; Ráth Collection, *Patterns 5, 8*, Miroslawice/Rosenthal disc-butted axe, *Patterns 6a, 8*). The Apa sword is also notable for having a combination of *Patterns 5* and *8*. The relative chronological position of this hoard was assigned to the Br A2 (Br B1). The last example is the Br B1 Nagyrozvágy pendant. In this case *Patterns 2* and *4* co-appear, but it is worth noting that the latter is slightly different than the ones chased on the Tápióbicske armlet (*Fig. 11*).

To summarize, the Tápióbicske armlet represents a mixed style, mainly characteristic between the Br A2 and Br B1. Based on the related gold finds and pattern combinations on hair rings, the dating of the object is more likely to be in the Br B1 (Koszider Period, 1600–1450 BC) (*Fig. 17*). Br A2 parallels can only be found among bronze products (swords, disc-butted axes, and shaft-hole axes). A handful of them even show some pattern combinations. It is important to note that most of these patterns are also present during the Br B1. The mixing of the styles of the two periods is not surprising. On the one hand, the Tápióbicske gold armlet is a product of a continuously used style and metalworking tradition, and on the other hand, there are several examples of a much longer continuity among the gold ornaments of similar size and symbolic meaning (Metzner-Nebelsick 2010, 139).

These results are the synthesis of the dating suggested by Amália Mozsolics, who related the Bilje object to the Middle Bronze Age, Hajdúsámson horizon (Br A2) (Mozsolics 1951; Mozsolics 1968, 24; David 2010, 460) (*Fig. 10*), and the work of Tibor Kovács, who proposed a Middle Bronze Age, Koszider period (Br B1) chronological position for the Dunavecse gold armlet (Kovács 1991) (*Fig. 11*). In agreement with the conclusions drawn by Amália Mozsolics and Tibor Kovács (Mozsolics 1951; Kovács 1991, 18–19), I also reject the idea of Late Bronze Age and especially Early Iron Age dating for the Bilje (*Fig. 10*), Dunavecse (*Fig. 11*) (Kemenczei 2004) and for the Tápióbicske gold armlets. An early Late Bronze Age dating, or rather deposition may still have some merit because some stylistic parallels can be traced all the way back to the Br B2–Br D. However, the large amount of Br A2 and Br B1 gold and bronze finds found in datable contexts serves as an argument against this concept. As I have noted before, in the case of the other gold armlets with crescent-shaped terminals (except the Early Iron Age Dalj and Boarta) (*Fig. 16*), I do not consider

their chronological position to be decided yet, as further analyses and more complex examinations are necessary for their evaluation in addition to the “simple” typology.

An Essence of Power

It is obvious that the Tápióbicske gold armlet was a special object. Although defining its exact symbolic meaning and significance for the local Middle Bronze Age societies is not an easy task, particularly because all the information that could have been provided by a known context is missing. However, it is plausible that the Tápióbicske armlet and some of its related finds were originally hoarded objects. A general trend can be observed towards the end of the Middle Bronze Age in the Carpathian Basin: the quantity of metal grave goods decreased, while the number of hoards and hoarded objects increased. In particular, between the Br A2 and Br B1, golden objects usually appear in hoards in contrast to the contemporary finds from West-Central Europe and the earlier phase of the Carpathian Middle Bronze Age. Thus, the selection of these finds for hoarding is much more likely (Mozsolics 1968; Mozsolics 1973; Metzner-Nebelsick 2010, 193; Dani et al. 2016, 232–233, *Fig. 12*; Metzner-Nebelsick 2019, 391–392).

The lack of a burial context for the Carpathian gold armlets with crescent-shaped terminals does not allow us to elaborate on any possibility of whether these objects were worn by men or women. Carola Metzner-Nebelsick has pointed out that the West-Central European archaeological contexts of lavish gold rings support the idea that similar objects may have been possessed and worn by men who were members of the elite group of the local societies (Metzner-Nebelsick 2010, 193; Metzner-Nebelsick 2019, 391). These burial contexts for gold armlets with crescent-shaped terminals may be missing in the Carpathian Basin, but some of the gold hair-rings, appearing in burials of men or in grave assemblages with weapons, may suggest a similar situation in this territory (Hänsel, Weihermann 2000, 25–26). Moreover, the style (*Fig. 17*) which appears on the Tápióbicske armlet is present on numerous weapons (shaft-hole axes, disc-butted axes, spearheads, swords, and daggers). It could be a supplement to the above argument – if only men were buried with pieces of weaponry. However, from a social anthropological point of view, the questions of who owned and who wore these ob-

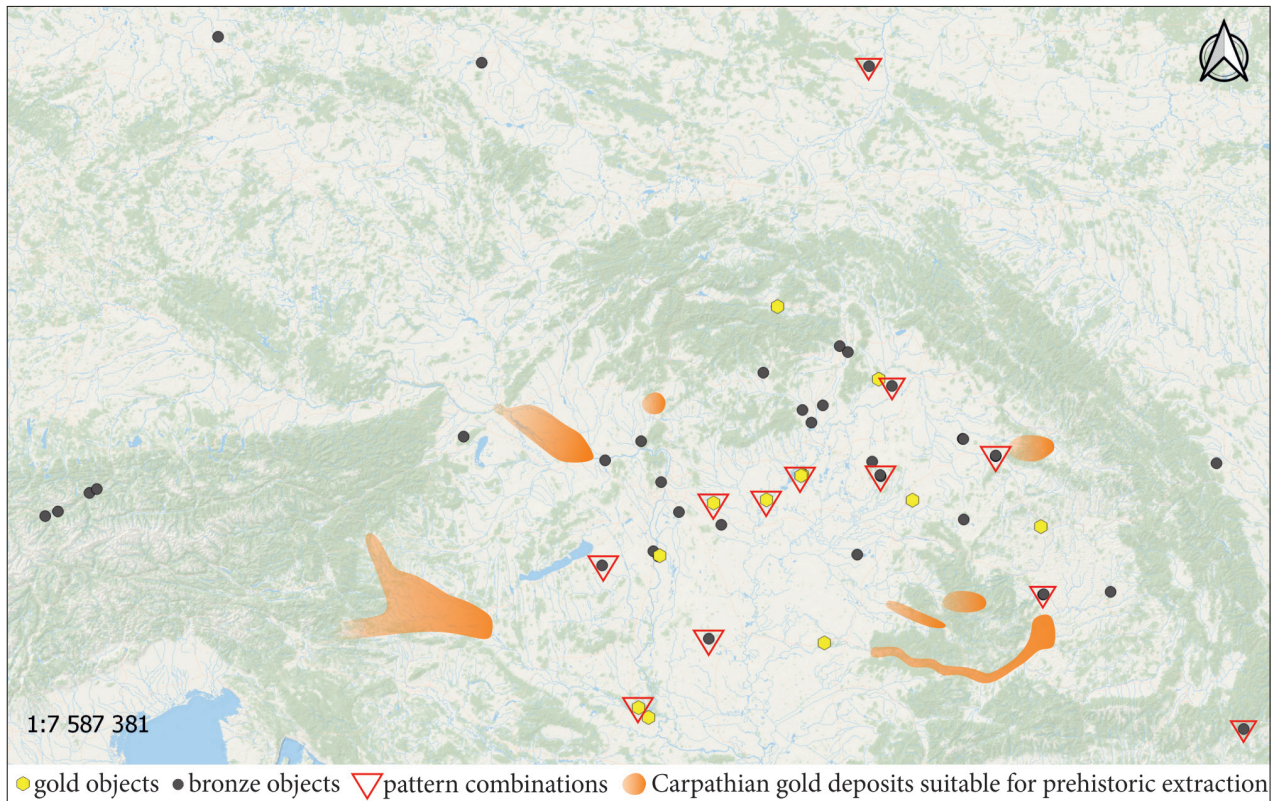


Fig. 18 The distribution of stylistically related Br A2–Br B1 gold and bronze finds of the Tápióbicske gold armlet and the Carpathian gold deposits suitable for prehistoric extraction (Czajlik 2012, Fig. 1) (Graphic: J. G. Tarbay)

18. kép A tápióbicskei arany karpánt Rei. Bz A2–Rei. Bz B1 keltezhető stilisztikai arany és bronz párhuzamainak elterjedése és kapcsolata a Kárpát-medencei őskori művelésre alkalmas aranyelőhelyeivel (Czajlik 2012, Fig. 1) (Grafika: Tarbay J. G.)

jects are archaeologically not tangible or important at all. As Hans Peter Hahn has pointed out in one of his case studies, a part of the gold insignia set of an Ashanti king could have been worn by his wife(s) as a symbol of fertility, but the ornament still belonged to the ruler and not to those who wore it (See Hahn 2014, 23–24, 26–28, Tab. 1).

How or whether these objects were really worn is a question as well. It is important to cite József Hampel, who questioned the wearability of the Kárász Collection – Transylvania piece (Hampel 1880, 215). Based on the dimensions of the Tápióbicske gold armlet, it is unlikely that this object was worn on the wrist, as its presumed diameter is larger than the wrist of a modern woman or man. It is plausible that this jewellery was worn on the upper arm or perhaps on the ankle like the leg/arm spirals (“Handschutzspiralen”). Based on use-wear analysis (Tarbay, Lukács 2022), the terminals of the object showed abrasion marks that may refer to its possible special biography. It could have been used for a lifetime or it could be passed down from generation

to generation, providing some additional symbolic meanings to it (Fontijn 2002, 26–27).

The object itself reveals some important data, too. According to the results of the metalwork production and use-wear analysis of the Tápióbicske gold armlet, it was a high-quality product made by one or two experienced craftsmen. The one who made the motifs was probably a chasing expert, a master who had to invest an enormous amount of time, even with his or her expertise, in the creation of the spectacular and precise ornament (Tarbay, Lukács 2022). The presence of such a craftsman or craftsmen assumes a strong, stable, and well-organized community with enough surplus to provide a background for this kind of specialization.

The dimensions and weight of the object are above average. Among the chronologically and morphologically different gold armlets with crescent-shaped terminals, this is the second heaviest after the incomplete Biia gold armlet (Fig. 12, 2), which only surpasses the studied object by 8.11 grams (Mozsolics 1968, 48). The armlet from Tápióbicske

is unquestionably heavier than those from Bilje and Dunavecse (Mozsolics 1968, 49; Kovács 1991, 7) (Figs 10–11). Perhaps the importance of this 303.7 g gold object can be best illustrated by the calculation of Harald Meller about what can be made of this amount of material during the Middle Bronze Age. It is suitable for producing approx. 533 West European hair-rings made around the time of the Leubingen “princely burial” (1942±10 BC) (Meller 2019, 287, Fig. 5). In the context of the Carpathian Basin during the Br A2–Br B1, this amount of gold would be suitable for manufacturing 5 or 6 large hair-rings like the one from Tizsasüly (50.87 g) (Fig. 15), or approx. 102 boat-shaped hair-rings like the ones found in Pecica (2.97 g–2.98 g).

In the Carpathian Basin, the availability of gold was granted by gold deposits, which are relatively close to our site. The nearest ones to Tápióbicske are Banská Štiavnica, the upper section of the Danube River in the Carpathian Basin, the area of the Körös/Criș and Maros/Mureș Rivers, as well as the Roșia Montană and Baia Mare areas (Czajlik 2012, 37–40, Fig. 1) (Fig. 18). Acquiring gold from even this relatively close vicinity required a well-organized society that could maintain supra-regional networks, elite connections, and perhaps possessed a “currency”, equivalent in exchange for gold. Regarding gold armlets with crescent-shaped terminals, scholars have suggested the use of Transylvanian raw material based on their high Ag content (Hartman 1968, 66–67, 72–73; Bóna 1975; Kovács 1991). According to current research, Ag content is insufficient for drawing conclusions about gold placer deposits (Pernicka 2014, 159). Some of the Tápióbicske armlet’s parallels originate from geographically close areas to gold deposits, but most of them come from central parts of the Carpathian Basin, where no such raw material can be extracted. The distribution of the Tápióbicske armlet’s gold parallels dated to the Br A2–Br B1 and the location of gold ore deposits and alluvial sites suitable for prehistoric extraction show a peculiar picture. It is as if the potential mining sites and finished products within the region were separated (Fig. 18). This is also visible when the distribution of other gold objects is considered (Kovács 1991, Fig. 6; Dani et al. 2016, Fig. 12). This situation may also suggest that local communities were highly organized and cooperative, and the extraction of gold raw material and the crafting of finished products took place in different locations. Regarding the elemental com-

position of the studied object, at present, only hand-held XRF analysis data is available. Based on the results of this analysis, it can only be concluded that specimens from the HNM can be characterized by high Ag and relatively low Cu content. The Abrud (Fig. 13, 1), Biia (Fig. 12, 2), Dunavecse (Fig. 11), Géza Kárász Collection – Transylvania (Fig. 12, 1), and Tápióbicske armlets (Figs 4–9) have a relatively uniform Ag content (ca. 21–24 wt%). This Ag content is slightly lower than the previous results. It also supports the idea that a similar native gold was used as the raw material for most of these ornaments. One armlet from the Körös area (Fig. 13, 2) and the six rivets of the Biia ornament (Fig. 12, 2) differ from the rest due to their much lower Ag content (Tarbay, Maróti 2022).

The patterns of the Tápióbicske armlet (Figs 4–9, Fig. 17) were most likely not just mere decorations that served to enhance the appearance of this exclusive object, but they were meaningful symbols for the owner and for the rest of the community, too. The metalwork production and use-wear analysis revealed scratched guiding lines of the chased and embossed patterns. There was no room for improvisation during the chasing and embossing of the patterns, the composition and execution of the motifs was clearly a conscious and intentional design (Tarbay, Lukács 2022). The patterns appearing on the studied object reflect the ornamental concept of at least two periods (Br A2–Br B1). Well-refined symbolic systems usually appear on special objects – weapons and lavish ornaments – and they represent tradition and continuation because they were made for and understood over a long period of time. Some researchers associate the central motif and overall composition of the Bilje armlet with solar barges (Hänsel 1969; David 2010) (Fig. 10), while others have questioned this entirely (Kovács 1991). In my opinion, it is most likely that celestial bodies and/or some simplified scenes symbolizing them appear on the Tápióbicske (Figs 4–9) and Bilje armlets (Fig. 10). This idea is compatible with the hypothesis of Emília Pásztor for the Biia (Fig. 12, 2), Dunavecse (Fig. 11) and Bilje armlets (Fig. 10), which is probably one of the several plausible interpretations for the celestial scenes appearing on these objects. According to her concept, the encircled three dots (*Pattern 3*) may represent the magical number of three and they can be interpreted as side-suns or side moons on the Biia and Bilje armlets (Pásztor 2017, 130, 132, Figs 8–9) (Fig. 10, Fig. 12, 2). She also described the decoration

of the Dunavecse gold armlet (*Fig. 11*) as a complex object that depicts natural elements like crescent moons, side-suns, the Evening Star (Venus) and water streams, just like shaman drums (Pásztor 2017, 137, 141, *Fig. 14*). The thoughts of Hans-Gert Bachmann are important to note as well. He emphasized that gold itself may symbolize celestial bodies, therefore the terminals that imitate a “crescent moon” or the obvious representations and scenes made by different techniques may only strengthen or specify this message (Bachmann 2014, 34).

According to a generally accepted concept by Bronze Age researchers, the appearance of cosmological symbols, scenes, and celestial body depictions on gold finds like the Tápióbicske armlet represents the individual power of the owner and his or her connections with the transcendental world. Gaining the favour and protection of these entities was very important, not just for a single person but also for the prosperity of the entire community. These kinds of qualities are usually characteristic of the objects worn by the elite, especially the ruling members of the social hierarchy (Hoddinott 1989, 58–59; Bachmann 2014, 33; Hahn 2014, 27; Meller 2019, 295; Metzner-Nebelsick 2019, 392). It is no wonder that the armlets with crescent-shaped terminals are generally interpreted as “insignias”, “possession of a chief”, “symbol of power”, or “prestige objects” (Bóna 1975, 116; Kovács 1991, 17). According to Carola Metzner-Nebelsick, the similarly interpreted gold rings were symbols of remembrance, signs of high status, perhaps a deified power, and the ideology of ruling, which concept may have first appeared around the 17th century BC. In addition, they tend to spread across cultural boundaries and their main characteristic is the “continuity” of their form and use (Metzner-Nebelsick 2010, 193; Meller 2014, 640–643). The above-described interpretation also fits well with the Tápióbicske armlet, particularly if we take into consideration the historical processes reconstructed for the Middle Bronze Age (2000/1900–1450 BC) in Central Hungary. A three-tiered settlement hierarchy was hypothesized, which may also indicate a socially stratified society. Local researchers also suggested consolidated political power and social inequalities at the end of the Middle Bronze Age, which are reflected in the general character of settlements, burials, and hoards (Dani et al. 2016, 224, 232–233, *Fig. 12*). A worn object with special biography that can be described by words

like “heavy, large, made of a precious and locally not accessible material, masterpiece, traditional, representation, covered with celestial symbols”, is the physical and symbolical manifestation of what someone would call “consolidated power” and “social inequality”. Instead of manufacturing 102 pieces of boat-shaped hair-rings for several people, only one exclusive, powerful object was made that could be worn by one person, and that person was most likely a member of the ruling Middle Bronze Age elite.

Conclusions

The results of the study support the idea that even though the Tápióbicske gold armlet (*Figs 4–9*) was found as a stray find, it is stylistically characteristic for the Br A2–Br B1, and its possible time of manufacture and deposition was in the Br B1, Koszider period (1600–1450 BC). The above proposed date is the synthesis of the concepts of Amália Mozsolics (Mozsolics 1951; Mozsolics 1968) and Tibor Kovács (Kovács 1991; Kovács 2000). Approaches that date the Bilje (*Fig. 10*) and Dunavecse armlets (*Fig. 11*) to the Late Bronze Age (1450–800 BC), Early Iron Age (800/750–400 BC), or Late Iron Age (400 BC–9 AD) cannot be supported on typological grounds (Hampel 1892, 375; Hoernes 1906, 79; Ebert 1908; Párvan 1926, 338–341, 679–680; Nestor 1933, 125; Roska 1942, 12, 226; Roska 1944, 53, 63, 66; Hänssel 1969, 82–84; Kemenczei 2005). Among the gold armlets with crescent-shaped terminals found and published so far, the Tápióbicske piece can be closely related to the Bilje armlet and based on some of the motifs, to the Dunavecse armlet, too. Considering other gold objects, it can also be related to the different types of decorated hair rings out of which the Tizasüly piece (*Fig. 15, 2*) is the most notable. The typo-chronological comparison of the observable patterns on the armlet has revealed the connection of this ornament to some exclusive bronze products, mainly weapons (shaft-hole axes, disc-butted axes, swords, spearheads, daggers) and ornaments (pendants, diadems).

The new golden armlet from Tápióbicske is undoubtedly an exceptional piece, a masterfully crafted heavy ornament made of rare material and decorated with celestial symbols. It also shows a mixture of styles that can be a symbolic aspect since it does not only represent the metalworking tradition, but also the unbroken social elite which could have

ruled for a long period of time in the central Carpathian Basin.

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Appendix I: Gold Armlets with crescent-shaped terminals

1. *Abrud* [Abrudbánya] (Alba County, Romania) [acquired in 1892, HNM Inv. no. 1892.57]: Hampel 1892, 375, Fig. 6, 1–2; Roska 1942, 12; Roska 1944, 53; Mozsolics 1951, 82, Fig. 3; Mozsolics 1968, 47, Pl. 19, 1; Kemenczei 2000, 121, no. 32; David 2002, 477, RO 2; Kemenczei 2005, 145, C64, Pl. 51, 5; Rotea 2017, Pl. 23, 2 (Fig. 13, 1).

2. *Biia* [Magyarbénye] (Alba County, Romania) [found allegedly in 1879, acquired in 1880, HNM Inv. no. 1880.53] stray find or part of an uncertain hoard: Hampel 1880, 214–216, Pl. 33, Pl. 35, 3; Ötvösmű-Kiállítás 1884, 10, no. 56; Marțian 1909, 336, no. 396; Marțian 1920, 9; Pârvan 1926, Fig. 229; Márton 1933, 88–89, Fig. 1a–b; Roska 1942, 149, Fig. 172; Roska 1944, 63, 66, Fig. 27; Mozsolics 1951, 81, 83–84, Fig. 2; Popescu 1956, 216, Fig. 133; Mozsolics 1964, Fig. 7; Mozsolics 1968, 48–49, Pl. 20–21; Mozsolics 1970, 143; Dumitrescu 1972, 138, Pl. 95, 1; Vladár 1973, Fig. 69; Dumitrescu 1974, Fig. 444; Müller-Karpe 1980a, 175, 798; Müller-Karpe 1980b, Pl. 287B, 1; Kemenczei 2000, 121, no. 30; Kovács 2000, Fig. 26; David 2002, 478, RO 8; Kemenczei 2005, 146, C71, Pl. 53, B; Soroceanu 2008, 228–230, fn. 219–222 (with further literature about the gold vessel); David 2010, Fig. 14; V. Szabó 2015, 131, III.57; Țârlea et al. 2016, 67. Literature associates this find with a chain of 7 Lockenringen and a gold vessel. Considering research history and the circumstances of discovery discussed by Tudor Soroceanu, it is uncertain, whether these objects belonged together, especially in case of the Ha B gold vessel, which may have been an individually deposited find. See more details in Soroceanu 2008, 228–230, fn. 219–222 (Fig. 12, 2).

3. *Bilje* [Béllye/Bellye] (Osijek-Baranja County, Croatia) [acquired in 1840, NHM 72935]: Arneth 1850, 40, no. 266, Pl. GVII; Römer 1865, 31; von Sacken, Kenner 1866, 345, no. 49; Gooss 1877, 487, Pl. 8, 10; Hampel 1880, 215, Fig. 45; Ötvösmű-Kiállítás 1884, 10, no. 59, Fig. 59; Hoernes 1906, 79, Fig. 50; Ebert 1908, 270, Fig. 121; Pârvan 1926, Fig. 232; Childe 1929, 385, Fig. 224, f; Mozsolics 1951, Fig. 1; Mozsolics 1964, Fig. 6; Hartmann 1968, Tab. 1; Mozsolics 1968, 49, Pl. 22, 2; Hänsel 1969, Fig. 12; Hartmann 1970, 110, Pl. 47, AU201; Vladár 1973, Fig. 70, 2; Coles,

Harding 1979, 94, Pl. 7a; Müller-Karpe 1980b, Pl. 287, A; Majnarić-Pandžić 1998, 171, Fig. 6; David 2002, 475, HR 4; Bader 2008, 174, Cat. no. 28; Šimić 2008, 47–49, Fig. 3–3a; David 2010, Fig. 16; Kern, Weiser, Grömer 2017, 36, 45; Lábadi 2019, 11–13 (Fig. 10).

4. *Boarta* [Mihăeni, Mihályfalva] (Sibiu County, Romania) hoard (Iron Age I/12th–8th c. BC; Early Iron Age): Nestor 1934, 175, Fig. 1, 1, Fig. 2, 1, Fig. 3; Popescu 1956, 217, Fig. 135, 1; Kemenczei 1995, Fig. 7b; Kemenczei 2005, no. B31, Pl. 35, C1; Țârlea, Popescu 2014, 221; Constantinescu et al. 2012, 2077, Tab. 1; Cristea-Stan, Constantinescu 2016, 32, Fig. 7; Constantinescu, Cristea-Stan 2019, 61, Tab. 3; Metzner-Nebelsick 2019, Fig. 3a (Fig. 16, 2).

5. *Dalj* [Dálya] (Osijek-Baranja County, Croatia) (Early Iron Age): Ebert 1908, 260–261, Fig. 116; Pârvan 1926, Pl. 16, 3; Kemenczei 1995, Fig. 7c; Kemenczei 2005, 145–146, no. C69, Pl. 52, B2 (Fig. 16, 1).

6. *Dunavecse* (Bács-Kiskun County, Hungary) [acquired in 1972, HNM 1972.5.1]: Kovács 1977, 95, Fig. 28; Kovács 1991; Bóna 1992, 55, Fig. 24; Csányi, Tárnoki 1992, 202, Cat. no. 376; Kemenczei 2000, 121, no. 27; Kovács 2000, Fig. 24–24a; David 2010, Fig. 15; V. Szabó 2015, 130, III, 55 (Fig. 11).

7. *Géza Kárász Collection, Transylvania* [Erdély] (Romania, unprovenanced) [acquired in 1893, HNM Inv. no. 1893.107.1]: Hampel 1880, 215, Pl. 35, 1–2, 5; Ötvösmű-Kiállítás 1884, 8, no. 50; Diner 1890, 5, no. 3, Pl. 1, 5; Pârvan 1926, Fig. 230; Márton 1933, Fig. 2; Popescu 1956, 216, Fig. 132; Mozsolics 1964, Fig. 9; Mozsolics 1968, 57, Pl. 23, 1; Vladár 1973, Fig. 68; Kemenczei 2000, 121, no. 31; Kovács 2000, Fig. 27–27a; V. Szabó 2015, 130–131, III, 56 (Fig. 12, 1).

8. *Körös area* [Körös melléke] (unprovenanced, Hungary or Romania) [acquired in the 19th century, HNM Inv. no. 1968.24.26]: Ötvösmű-Kiállítás 1884, 11, no. 60; Hampel 1886a, Pl. 47, 5; Hampel 1886b, Pl. 47, 5; Mozsolics 1968, 57, Pl. 19, 2; Kemenczei 2000, 121, no. 33; Kemenczei 2005, 144, P. 51, 3; Rotea 2017, Fig. 23, 1 (Fig. 13, 2).

9. *Pipea* [Pipe/Pipé] (Mureș County, Romania) [acquired

in 1830]: Arneth 1850, 23, no. 25; von Sacken, Kenner 1866, 345, no. 38; Gooss 1876, 45; Gooss 1877, 487; Hampel 1880, 215, Pl. 34, Pl. 35, 4; Ötvösmű-Kiállítás 1884, 11, no. 61; Téglás 1892, 409; Ebert 1908, 270, Fig. 121; Marțian 1909, 342, no. 354; Marțian 1920, 31, no. 518; Pârvan 1926, Fig. 228; Márton 1933, Fig. 3; Roska 1942, 226, Fig. 277; Roska 1944, 67, Fig. 42; Mozsolics 1951, 81; Popescu 1956, 216, Fig. 134; Mozsolics 1964, Fig. 8; Hartmann 1968, Tab. 1; Mozsolics 1968, 51, Pl. 22, 1; Hartmann 1970, 110, Pl. 47, AU202; Vladár 1973, Fig. 70, 1; Dumitrescu 1974, 407–409, Fig. 444; David 2002, 480, RO 41; Kern et al. 2017, 45 (Fig. 14).

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A HATALOM ESSZENCIÁJA: KÖZÉPSŐ BRONZKORI ARANY KARPÁNT
TÁPIÓBICKÉRŐL (KÖZÉP-MAGYARORSZÁG)

Összefoglalás

A tanulmány a középső bronzkor végi fémművesség egy teljesen egyedülálló mestermunkáját, a Tápióbicske térségéből (Pest megye) származó új arany karpántot mutatja be (4–9. kép). A kiemelkedő történeti jelentőségű műtárgyat a Magyar Nemzeti Múzeum 2016 októberében vásárolta meg egy helyi lakostól. A lelet azóta is számos, jelenleg is zajló tudományos kutatás része, melyek a lelet készítése technológiai (Tarbay, Lukács 2022) és természettudományos elemősszetételi vizsgálatára (Tarbay, Maróti 2022), továbbá a Várhegy és környezetének szisztematikus terepi kutatására koncentrálnak. Jelen tanulmány elsődleges célja az arany karpánt relatív kronológiai helyzetének felvázolása és a tárgy történeti jelentőségének értelmezése volt, a rendelkezésre álló adatok alapján. A karpánt az úgynevezett holdsarlós végű darabok körébe tartozik, mely a kutatástörténet során eltérő módon értékelt, tipológiailag és relatív kronológiailag is vegyesnek tekinthető csoport. A lelet díszének elemzése alapján (17. kép) valószínűnek tartom, hogy a Tápióbicskéről származó arany karpánt, egyetlen publikált párhuzamával, a bellyei (Bilje, Horvátország) (10. kép) lelettel együtt a középső bronzkor végének a terméke. A karpántok néhány motívuma kontinuitást mutat a későbbi fémműves termékek díszével is, ennek ellenére egyik sem hozható egyértelműen összefüggésbe a helyi késő bronzkorral (Rei. Bz. B2–Ha B2) vagy a kora vaskorral (Ha B3–Ha D), ahogy ezt a bellyei karpánt esetén korábban több kutató is feltételezte. A Tápióbicskei karpánt a stilsztikai elemzések alapján inkább a Rei. Bz. A2 (Hajdúsámson horizont) és Rei. Bz. B1-es periódus (Koszider horizont) arany (karpercek, hajkarikák) és bronzleleteihez (nyélllyukas balták, nyakkorongos

csákányok, lándzsahegyek, kardok, nagy méretű, félhold alakú csüngők, „diadémok”) köthető (15. kép, 17. kép). A párhuzamok, különösen az aranyból készült példányok időbeli szóródása, a középső bronzkori aranytárgyak deponálásának általános tendenciája a Kárpát-medence keleti felében, továbbá a vizsgált karpánt poncolt, vésett és trébelt mintáinak elemzése és összehasonlítása arra enged következtetni, hogy a tápióbicskei arany karpánt valószínűleg a Koszider periódus (Rei. Bz. B1, Kr.e. 1600–1450) időszakában készülhetett, illetve ebben az időszakban deponálhatták is. Ez a tipokronológiai interpretáció alapvetően Mozsolics Amália (Mozsolics 1951, Mozsolics 1968) és Kovács Tibor (Kovács 1991, Kovács 2000) koncepciójával rokonítható. Ugyanakkor fontos hangsúlyozni, hogy a tanulmány relatív időrendi megállapításai elsősorban a tápióbicskei (4–9. kép), bellyei (10. kép) és dunavecsei (11. kép) karpántokra vonatkoznak, míg a többi lelet pontos időrendi értékelését (12–14. kép), leszámítva az egyértelműen vaskori darabokat (Mihályfalva/Boarta, RO, Dállya/Dalj, HR) (16. kép), nem tekintem lezártnak. A karpánt egyértelműen különleges termék, melyet egy tapasztalt kézműves készített, a régióban nem elérhető arany nyersanyagból. Az ékszer ezen kívül több szempontból is kiemelkedő, Magyarbénye (Biia, RO) (12. kép 2) után ez a legnehezebb darab, és méretében felülmúlja a bellyei példányt (10. kép). Testén egyértelműen szimbolikus, valószínűleg különféle égitestekként azonosítható ábrázolásokat jelenítettek meg. A fent leírtak fényében a tárgy kiemelkedő jelentőségű, minden szempontból különleges termék, melyet kétséget kizáróan a helyi középső bronzkor végi társadalom csúcsán álló elit egyik tagjának készíthettek.

