



# ANTÆUS

*Communicationes ex Instituto Archaeologico  
Academiae Scientiarum Hungaricae*

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# 34

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Beyond archaeological finds and sites:  
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in Hungary

II



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## LIST OF AUTHORS

BAJKAI, ROZÁLIA

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
bajkai.rozalia@btk.mta.hu

CSÖSZ, ARANKA

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
csosz.aranka@btk.mta.hu

GERGELY, KATALIN

Hungarian National Museum  
H-1088 Budapest, Múzeum körút 14-16.  
gergely.katalin@hnm.hu

HAJDU, TAMÁS

Eötvös Loránd University, Faculty of Science,  
Institute of Biology  
H-1117 Budapest, Pázmány Péter sétány 1/C  
hajdut@elte.hu

HORVÁTH, FRIDERIKA

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
horvath.friderika@btk.mta.hu

JEREM, ERZSÉBET

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
jerem.erzsebet@btk.mta.hu

KOVÁCS, LÁSZLÓ

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
kovacs.laszlo@btk.mta.hu

KÖHLER, KITTI

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
kohler.kitti@btk.mta.hu

KUSTÁR, ROZÁLIA

Dunatáj Értékeiért Nonprofit Zrt.  
H-6326 Harta, József Attila utca 22.  
rozinakustar@t-online.hu

LANGÓ, PÉTER

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
lango.peter@btk.mta.hu

MASEK, ZSÓFIA

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
masek.zsofia@btk.mta.hu

MERVA, SZABINA

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
merva.szabina@btk.mta.hu

METZNER-NEBELSICK, CAROLA

Institut für Vor- und Frühgeschichtliche Archäologie  
und Provinzialrömische Archäologie,  
Ludwig-Maximilians-Universität München  
D-80539 München, Geschwister-Scholl-Platz 1.  
Metzner-Nebelsick@vfpa.fak12.uni-muenchen.de

NYERGES, ÉVA ÁGNES

Institute of Archaeology, Research Centre for the Humanities, Hungarian Academy of Sciences  
H-1097 Budapest, Tóth Kálmán utca 4.  
nyerges.evaagnes@btk.mta.hu

SZABÓ, EMESE

szeseme@hotmail.com

TOMKA, PÉTER

H-9022 Győr, Lukács Sándor utca 14.  
tomka.szonyi@gmail.com

## ABBREVIATIONS

ActaArchHung	Acta Archaeologica Hungarica Academiae Scientiarum Hungaricae (Budapest)
Agria	Agria. Az Egri Múzeum Évkönyve (Eger)
Alba Regia	Alba Regia. Annales Musei Stephani Regis (Székesfehérvár)
AmJPhysAnthropol	American Journal of Physical Anthropology (Washington D. C.)
AKorr	Archäologisches Korrespondenzblatt (Mainz)
Antaeus	Antaeus. Communicationes ex Instituto Archaeologico Academiae Scientiarum Hungaricae (Budapest)
ArchA	Archaeologia Austriaca (Wien)
ArchÉrt	Archaeologiai Értesítő (Budapest)
ArchHung	Archaeologia Hungarica (Budapest)
Arrabona	Arrabona. A Győri Xantus János Múzeum Évkönyve (Győr)
BAR IS	British Archaeological Reports, International Series (Oxford)
BBVF	Bonner Beiträge zur vor- und frühgeschichtlichen Archäologie (Bonn)
BMMK	A Békés Megyei Múzeumok Közleményei (Békéscsaba)
BudRég	Budapest Régiségei (Budapest)
CommArchHung	Communicationes Archaeologicae Hungariae (Budapest)
DMÉ	A Debreceni Déri Múzeum Évkönyve (Debrecen)
FolAnthr	Folia Anthropologica (Szombathely)
FolArch	Folia Archaeologica (Budapest)
FontArchHung	Fontes Archaeologici Hungariae (Budapest)
GSAD	Glasnik Srpskog Arheološkog Društva (Belgrade)
HevesMRK	Heves Megyei Régészeti Közlemények (Eger)
HOMÉ	A Herman Ottó Múzeum Évkönyve (Miskolc)
JAMÉ	A nyíregyházi Jónás András Múzeum Évkönyve (Nyíregyháza)
JOÖMV	Jahrbuch des Oberösterreichischen Musealvereines (Linz)
JPMÉ	A Janus Pannonius Múzeum Évkönyve (Pécs)
JRGZM	Jahrbuch des Römisch-Germanischen Zentralmuseums (Mainz)
MAA	Monumenta Avarorum Archaeologica (Budapest)
MBV	Münchener Beiträge zur Vor- und Frühgeschichte (München)
MhBV	Materialhefte zur Bayerischen Vorgeschichte (Kallmünz, München)
MFME	A Móra Ferenc Múzeum Évkönyve (Szeged)
MFME StudArch	A Móra Ferenc Múzeum Évkönyve – Studia Archaeologica (Szeged)
MGAH	Monumenta Germanorum Archaeologica Hungariae (Budapest)
MPK	Mitteilungen der Prähistorischen Kommission der Österreichischen Akademie der Wissenschaften (Wien)
RégFüz	Régészeti Füzetek (Budapest)
RGZM Kataloge	Römisch-Germanisches Zentralmuseum – Kataloge Vor- und Frühgeschichtlicher Altertümer (Mainz)
RKM	Régészeti Kutatások Magyarországon – Archaeological Investigations in Hungary (Budapest)
RégTan	Régészeti Tanulmányok (Budapest)
RLÖ	Der römische Limes in Österreich (Wien)
SIA	Slovenská Archeológia (Bratislava)

SMK	Somogyi Múzeumok Közleményei (Kaposvár)
StudArch	Studia Archaeologica (Budapest)
Századok	Századok. A Magyar Történelmi Társulat folyóirata (Budapest)
SzMMÉ	A Szolnok Megyei Múzeumok Évkönyve (Szolnok)
VAH	Varia Archeologica Hungarica (Budapest)
VMMK	A Veszprém Megyei Múzeumok Közleményei (Veszprém)
WMMÉ	A Wosinsky Mór Múzeum Évkönyve (Szekszárd)
ZalaiMúz	Zalai Múzeum (Zalaegerszeg)
ZGy	Zalai Gyűjtemény (Zalaegerszeg)
ZfA	Zeitschrift für Archäologie (Berlin)

ZSÓFIA MASEK

## THE TRANSFORMATION OF LATE ANTIQUE COMB TYPES ON THE FRONTIER OF THE ROMAN AND GERMANIC WORLD

EARLY MEDIEVAL ANTLER COMBS FROM RÁKÓCZIFALVA  
(COUNTY JÁSZ-NAGYKUN-SZOLNOK, HUNGARY)

**Keywords:** antler combs, typology, manufacturing, Roman-period Barbaricum, Early Middle Ages, Sarmatians, Hun period, Gepids, Hungarian Plain, Central Danube region

I have already published several reports on the Migration-period settlement at Rákóczifalva, occupied during the Sarmatian and Gepidic periods.<sup>1</sup> Aside from pottery, the other distinctive artefact type recovered from the various settlement features in relatively high numbers is represented by antler combs. These came to light from settlement features of the Sarmatian and Gepidic period as well as from the burials of the site. While some overlaps can certainly be noted between the comb types of various periods, a handful of these finds represent singular pieces in the material from the Hungarian Plain. The twenty combs and comb fragments from the site offer a unique glimpse of the cultural connections and transformation of this particular craft in the fourth–sixth centuries on the Hungarian Plain. The dating of the combs will not be significantly modified by the full site report – rather, the chronological assignation of the combs will contribute to the assessment of the site’s other finds, which is valid not only for settlement features, but also for the burials. The most sensible approach seemed to be a discussion of these combs in a separate study.

Two combs were recovered from Sarmatian settlement features. The Sarmatian settlement covered a smaller area on the western side of the investigated site, and had a more compact, more structured layout than the Gepidic settlement.<sup>2</sup> Most of the finds came from a destruction level that covered almost the entire part of the settlement. The secondarily redeposited material from the refuse pits was largely made up of the ceramics typical for the region and for the last period of Sarmatian pottery production on the Hungarian Plain.

Twelve combs and comb fragments can be assigned to the Gepidic-period settlement. The Gepidic settlement covered some seven hectares of the planned motorway track’s investigated area. We uncovered over a hundred sunken buildings.<sup>3</sup> The settlement was structured to some extent, but had a rather dispersed layout. Although several chronological periods can be distinguished in the pottery, no shifts could be noted in the settlement’s occupation: for example, stamped pottery was distributed across the entire settlement.

The remaining six combs were recovered from burials. A Sarmatian cemetery section with south to north oriented inhumation burials, including a handful of ditch-enclosed graves, was also uncovered at the site. Conforming to the Sarmatian burial rite on the Hungarian Plain, these burials did not contain any combs. A further nine Migration-period burials with a west to east or south-west to north-east orientation (as well as two similarly oriented burials without grave goods) were scattered across the excavated area. With the exception of a single grave, a male burial with a spatha (Grave 8A/697/826), these burials contained very modest costume accessories and antler combs as grave goods. Their closer dating is difficult and the

<sup>1</sup> Rákóczifalva-Bagi-földek Site 5-8-8A: *Masek 2012*; *Masek 2016a*; *Masek 2016b*; for additional pottery finds from the site, see *Masek 2011*; for a Sarmatian burial, see *Masek 2014*; cp. the Avar finds from the same site: *Kondé 2015*; *Rácz 2012* and *Schmid 2015*.

<sup>2</sup> *Masek 2016a*.

<sup>3</sup> *Masek 2016b*.

combs provide the best chronological anchors. The presence of a large Gepidic cemetery can be assumed nearby; however, the majority of the graves uncovered in the investigated area cannot be conclusively designated as Gepidic, either for chronological reasons, or because of the lack of grave goods, and their association with the Gepidic settlement is also dubious. Thus, if a dating to the Gepidic period is unwarranted, these graves shall here be designated as Hun-period burials.

### *Typochronology*

#### *Double-sided combs*

Most of the combs from the site are composite double-sided antler combs (*figs 1–2*). This type represents the most widespread form during the fifth century in the Carpathian Basin and in the subsequent Gepidic period on the Hungarian Plain. On the testimony of the current record, the comb type appeared in Pannonia during the last decades of the fourth century.<sup>4</sup> It spread to the Hungarian Plain slightly later, at the turn of the fourth and fifth centuries: it is attested on Sarmatian settlements from the first decades of the fifth century (*figs 3, 9*). Later, its continuous use by the Gepids is evidenced by their high number both on settlements and among grave goods.<sup>5</sup>

This type appears but rarely in the Marosszentanna–Chernyakhov culture.<sup>6</sup> They have been attested in Transdanubia as late as the later fifth century, while only a sporadic use has been documented in the Langobardic period.<sup>7</sup> A similar tendency can be noted in the Moravian cemeteries, where they can be found in higher number in the later fifth century, but virtually disappear by the Langobardic period.<sup>8</sup> The double-sided combs from Viminacium (Kostolac, Serbia) are typical for Horizon 2 (“Phase B”) of the cemeteries, although the associated finds do not suggest a context later than the D2/D3 phase.<sup>9</sup> Thus, double-sided combs were only current in the Gepidic territories of the Hungarian Plain and Transylvania by the earlier sixth century in the Carpathian Basin.

In contrast, the deposition of double-sided combs as grave goods in the southern and eastern Alemannic territories and the Bavarian Danube region only declined around the close of the sixth century.<sup>10</sup> They appeared in Thuringia and Saxony from the mid-fifth century and remained in use until the sixth–seventh centuries, and are sometimes even found among the grave goods of cremation burials.<sup>11</sup> They are infrequent in the more northerly Rhine region during the fourth–fifth centuries, becoming more popular during the late Merovingian period. The combs from this region are usually plain or are at most decorated with simple

<sup>4</sup> *Biró 2000a* 172; *Ottományi 2001* 59–50; *Ottományi 2008a* 147–153; *Biró 2009* 74–75. For other parallels from Illyricum and Moesia, see *Ivanišević – Kazanski – Mastykova 2006* 35–36.

<sup>5</sup> *Cseh 1990* 55, Map XVIII (Transylvanian distribution); *Cseh 1993* fig. 15 (Sarmatian and Gepidic settlement finds); *B. Tóth 1994* 289–290; *Biró 2000* 178; *B. Tóth 2006* 74–76; *Pintye 2009* 175–176; *Szabó – Vaday 2011* 15.

<sup>6</sup> *Harhoiu 1997* 60. Cp. *Mitrea – Preda 1966* 223, Abb. 33. 2; *Šovan 2005* 156, Type 5; *Stanciu 2011* 35, 53.

<sup>7</sup> *Bóna et al. 1993* 144. For the fifth-century graves, see *Kiss 1981* 204–205; *Ottományi 2001* 50; *Ottományi 2008a* 148–149; for the Langobard-period exemplars, see *Bóna 2009* 196.

<sup>8</sup> For example, two of the eleven combs from the Langobardic cemetery at Borotice were of the double-sided variety; traces indicating a long period of use were noted on the double-sided combs from the Holubice burial ground. See *Stuchlík 2011* 91, and *Čížmař 2011* 146, with further sites; cp. also the double-sided comb with incised decoration found together with a pair of chip-carved radiate-headed brooches with three knobs in the female burial at Mistřín (*Tejral 1982* 204, Abb. 34. 1).

<sup>9</sup> *Ivanišević – Kazanski – Mastykova 2006* 119–121; for a list of combs, see *ibid.* 120 and fig. 18. 1–9. For their distribution in Moesia Superior, see *Petković 1995* Karta 1.

<sup>10</sup> *Christlein 1966* 81, 83–84; *Koch 1968* 101–102; *Garscha 1970* Taf. 87–88; *Martin 1976* 102; *Koch 1977* 91–92; *Grünwald 1988* 123; *Martin 1991* 148.

<sup>11</sup> *Schmidt 1961* 144. A double-sided comb was recovered from a burial with a spatha dated to around 500 in the Brandenburg area lying even farther to the north: *von Müller 1962* Abb. 22 (Phöben, Grave 10).

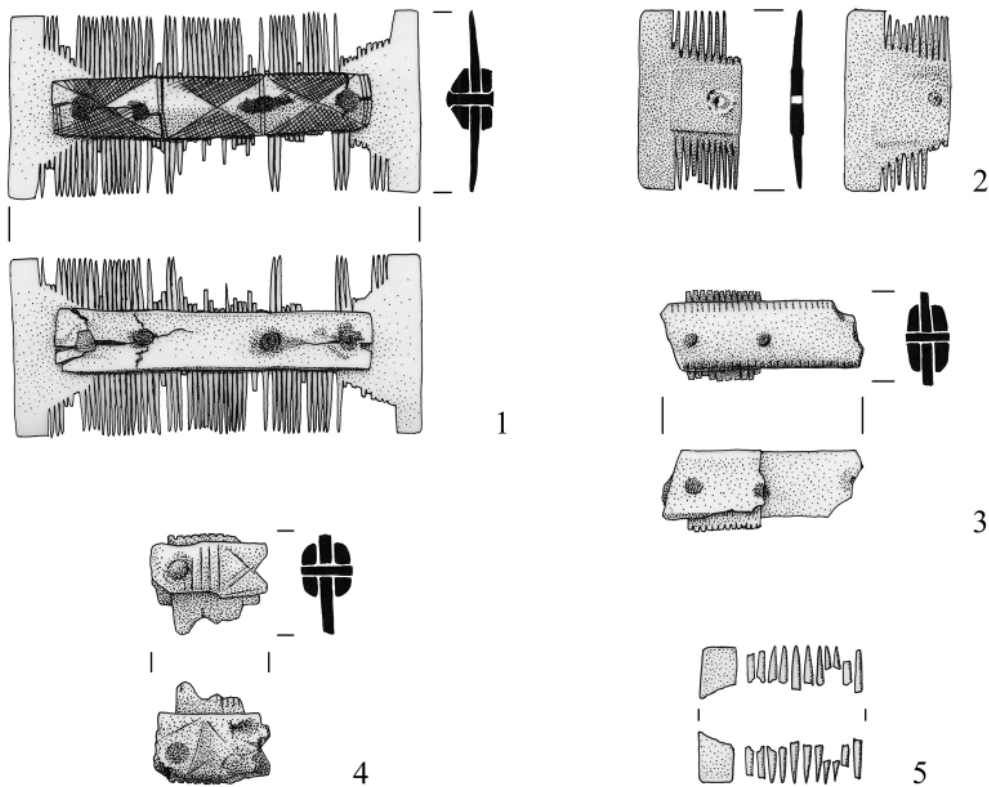


fig. 1. Double-sided antler combs with incised decoration and undecorated comb fragments from Rákóczifalva 1: Cat. no. 20, 2: Cat. no. 1, 3: Cat. no. 2, 4: Cat. no. 4, 5: Cat. no. 16

incised longitudinal lines.<sup>12</sup> A similar tendency can be noted in Raetia, where combs of this type appeared at the close of the fifth century and remained in use up to the seventh century.<sup>13</sup> Double-sided combs, most of them unadorned, are similarly attested up to the seventh century in the Italian burials.<sup>14</sup> They were used until the seventh century in Säben too: most of these combs were found in a Romanised context among the grave goods of female burials.<sup>15</sup>

Only one of the combs from Rákóczifalva lacks any decoration. Two are decorated with incised patterns, while most (six in all) were ornamented with stab-and-drag designs.<sup>16</sup> I shall here discuss the analogies to the combs based on their ornamentation.

*Cat. no. 20*, an antler comb from a male burial containing a weapon, is decorated with three pairs of triangles with facing tips filled with a dense lattice pattern (“hourglass motif”). This decorative motif is extremely rare in the Gepidic material; the single good parallel comes from Kiszombor,<sup>17</sup> where the same motif also appears on a long single-sided comb.<sup>18</sup>

<sup>12</sup> Böhme 1974 120; Koch 1967 74–75; Blaich 2006 153–157.

<sup>13</sup> Schneider-Schnekenburger 1980 42, 48–49.

<sup>14</sup> Riemer 2000 203–205.

<sup>15</sup> Bierbrauer – Nothdurfter 2015 425–426.

<sup>16</sup> In contrast to these proportions, no more than seven of the twenty-nine combs from the Hódmezővásárhely-Kishomok cemetery were decorated (Bóna – Nagy 2002b 98). It is uncertain whether similar proportions were the norm in other large burial grounds; whatever the case, the aesthetic quality of the combs found on settlements is in no way inferior to the pieces from grave inventories.

<sup>17</sup> Kiszombor, Grave 35: Csallány 1961 174, Taf. CXVIII. 6. Double burial of a woman and an infant. The single grave good was a comb placed under the head. Similarly to the Rákóczifalva exemplar, the comb is decorated with three motifs separated by pairs of vertical lines. However, unlike the piece from Rákóczifalva, both sides of the Kiszombor comb are decorated.

<sup>18</sup> Kiszombor, Grave 404: Csallány 1961 192, Taf. CCLXVI. 5; CLII. 1. The comb lay above the skull; the other finds were a tinder set. See also below, in the section on long combs.

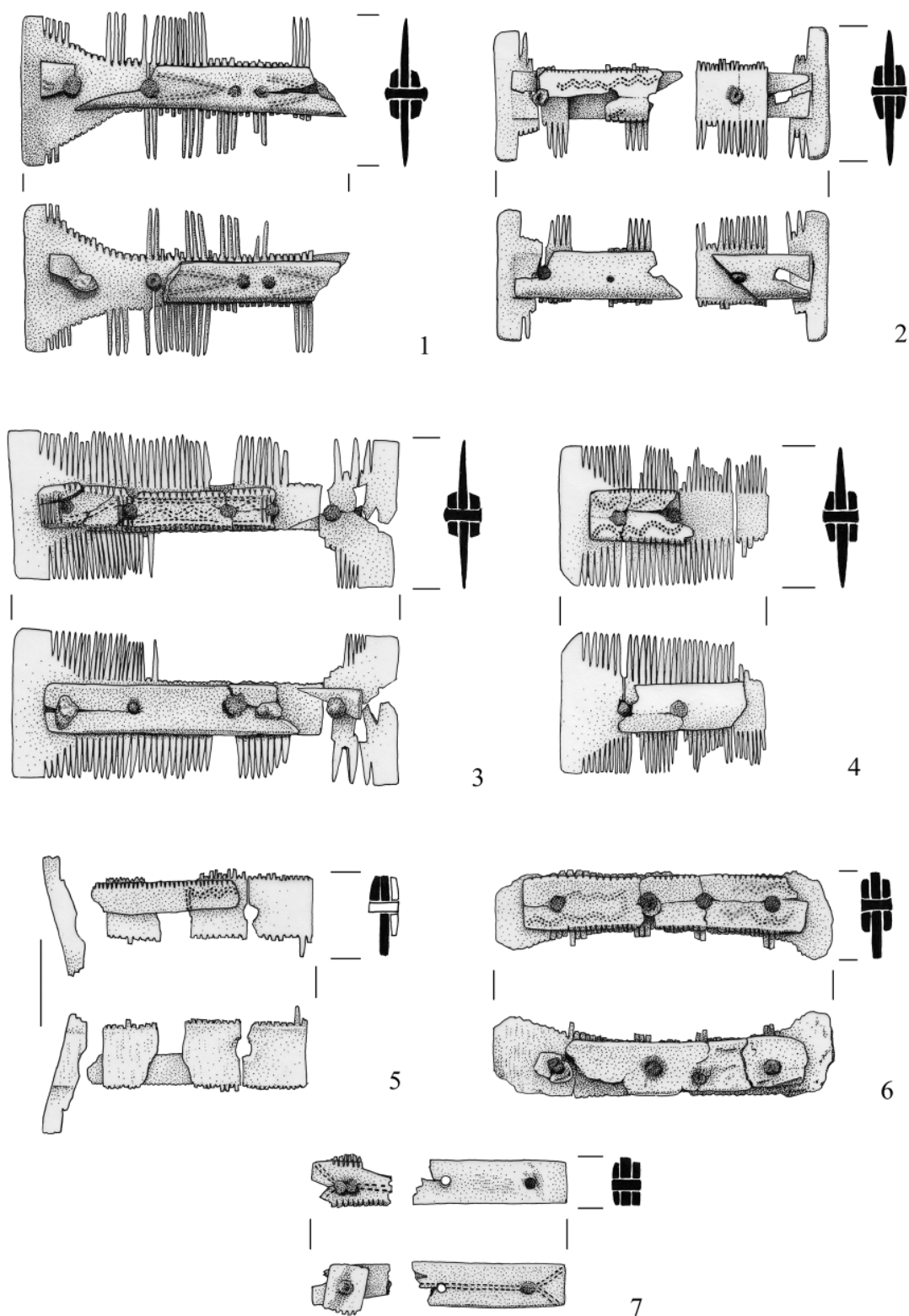


fig. 2. Double-sided combs with stab-and-drag decoration from Rákóczifalva 1: Cat. no. 8, 2: Cat. no. 14, 3: Cat. no. 10, 4: Cat. no. 13, 5: Cat. no. 11, 6: Cat. no. 12, 7: Cat. no. 17

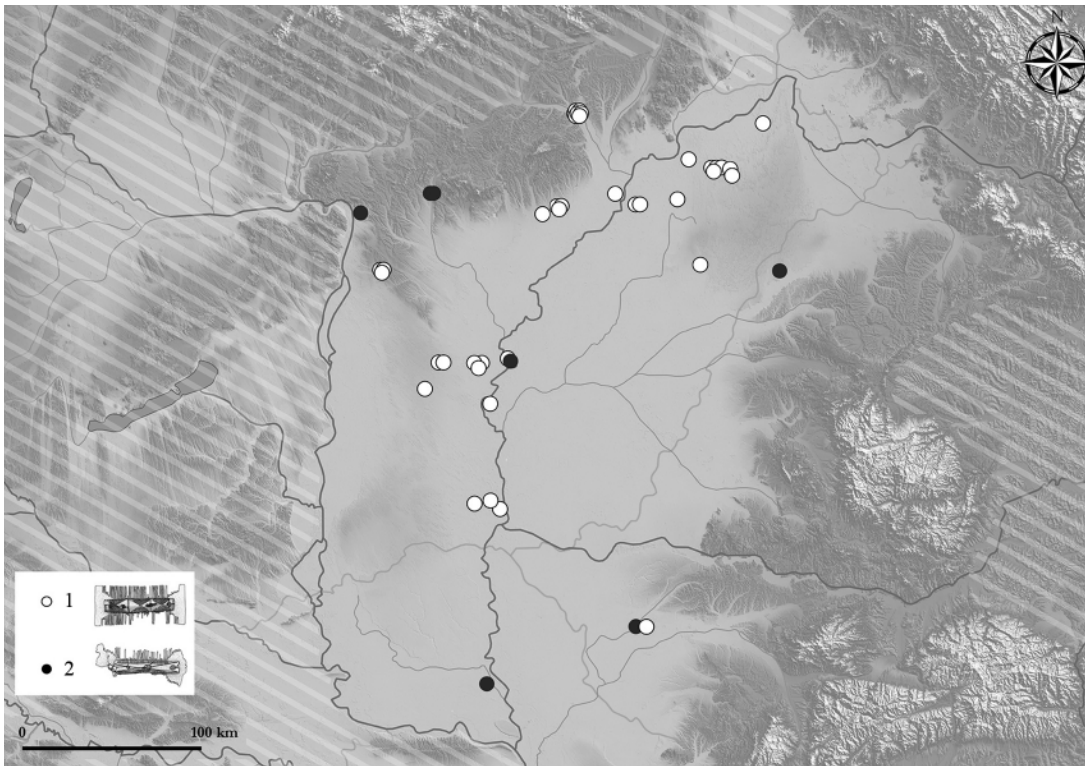


fig. 3. Distribution of double-sided combs (1) and double-sided combs with end profiling (2) in the Sarmatian Barbaricum on the Hungarian Plain and in the neighbouring Imperial-period Germanic borderland up to the mid-fifth century. After *Pintye 2009*, with the new finds. White zones: unmapped (Pannonia, northern Germanic Barbaricum, Marosszentanna culture)

Good analogies to the ornamental motif from Roman provincial contexts can be cited from Brigetio (Szöny) and Wien-Leopoldau.<sup>19</sup> Other, more distant analogies include a comb from Singidunum (Belgrade) with a delicately incised, albeit differing motif, dated to the middle third of the fifth century.<sup>20</sup>

The ornamented side plate of this comb has a triangular section, a unique trait in the Rákóczifalva material. In the Gepidic material, this is usually combined with bundles of lines created from wedge motifs,<sup>21</sup> whose direct forerunners can be found in Sarmatian<sup>22</sup> and Pannonian contexts.<sup>23</sup> The motif is very rare in the Gepidic lands and the manufacturing technique of the comb (see below) too suggests that this comb was not a locally produced piece, but rather a provincial Roman product.

*Cat. no. 4*, a small comb fragment, is decorated with an incised pattern on both sides made up of saltire cross motifs and single or multiple vertical lines. These ornamental motifs are quite common on Gepidic combs. Good parallels to this comb can be found among the combs decorated with cross motifs and vertical lines brought to light at sites that are evenly

<sup>19</sup> *Pollak 1980* Taf. 170. 13; *Bíró 2002* 40, Type I/2.10, figs 65–66. One shared trait of the combs is the band of vertical lines separating the triangle motifs. The piece from Szöny is a closer analogy; the middle “hourglass motif” is lacking on the Vienna comb and the lattice pattern is less dense.

<sup>20</sup> *Ivanišević – Kazanski 2002* Pl. VIII. 88. 1; *Ivanišević 2009* 68–69 (with photo). Pronounced traces of subsequent polishing are not visible on this comb with differentiated teeth. It was made using Roman-period technology.

<sup>21</sup> *B. Tóth 1994* 290–291, see, e.g., Grave 658 of Tápé: *ibid.* Abb. 4.

<sup>22</sup> *Pintye 2009* 173–174.

<sup>23</sup> *B. Tóth 1994* 291; *Bíró 2002* 39–40, figs 49–54.



distributed in the Tisza region.<sup>24</sup> Similar patterns can be found in the Pannonian material<sup>25</sup> and among the double-sided combs from Moravia.<sup>26</sup>

The best parallels to the ornamental motif of *Cat. no. 8*, recovered from a Sarmatian context, can be found among the combs of the Sarmatian period. The closest among these is a stray comb fragment from Jászkarajenő-Sárhalom,<sup>27</sup> a site lying fairly close, although the analogy is tentative since the chevrons in the stab-and-drag technique on this piece could equally well come from a comb resembling the asymmetric ornamentation of an exemplar from Rétközberencs-Paromdomb,<sup>28</sup> as already noted by Gábor Pintye, or it could have been part of a pattern branching towards the corners as on the pieces from Grave 1 of the Apátfalva site and various Sarmatian settlements.<sup>29</sup> In contrast, the piece has no truly good parallels in the Roman or Gepidic material.<sup>30</sup>

There are few good counterparts to the stab-and-drag motif of *Cat. no. 17*, a comb recovered from a Gepidic pit. The motif does not occur among the decorative elements of the provincial Roman material. While the single piece from the Hungarian Plain with an identical decoration comes from Grave 391 of the Hun-period grave group uncovered at Tápé-Széntégláégető,<sup>31</sup> other good parallels are known from Grave 1 of Letkés dated by a Béndekpuszta-type brooch<sup>32</sup> and the fifth-century cemetery at Mőzs.<sup>33</sup> Two fragments from the late Imperial-period settlement at Sajószentpéter, a site lying on the boundary of the Sarmatian and Germanic settlement territories, can be tentatively reconstructed as similar pieces.<sup>34</sup> A stray find from Sălacea (Szalacs, Romania) decorated with a stab-and-drag line branching towards the corners<sup>35</sup> can also be assigned to this group. Its best analogy from the Gepidic period comes from Gyula-Kálvária-dűlő, although its ornamentation is more sophisticated than of the piece from Sălacea.<sup>36</sup> The comb can thus be dated to the second and final third of the fifth century. It remains uncertain whether the motif originated from the Hungarian Plain or Pannonia.

The most uniform group of the combs from Rákóczifalva is represented by the pieces decorated with pairs of stab-and-drag wavy lines (*Cat. nos 12–14*).<sup>37</sup> Precursors of this

<sup>24</sup> Szolnok-Zagyva-part, Trench XIII, Feature 84 (*Cseh 1999a* fig. 14. 1), Szolnok-Szanda, Grave 96 (*Bóna 2002c* Taf. 96, Gr. 96. 1), Békésszentandrás-Sirató, Grave 3 (*Bóna 2002a* Taf. 3, Gr. 3. 1), Szentes-Kökényzug, Grave 38 (*Csallány 1961* Taf. IX. 2; CCLXI. 10), Szentes-Berekhát, Grave 175 (*Csallány 1961* Taf. LI. 3), Szöreg-Téglagyár, Grave 75 (*Csallány 1961* Taf. CLXXIII. 4; CCLXI. 6; *Nagy 2005* Taf. 60, Gr. 75. 1) and Kiszombor, Grave 24 (*Csallány 1961* Taf. CXIV. 5; CCLXV. 9).

<sup>25</sup> *Bíró 2002* 40, figs 55–62.

<sup>26</sup> *Tejral 1982* 143, Abb. 51.

<sup>27</sup> *Pintye 2009* 186, *Cat. no. 22*, fig. 6. 2, dated to the late fourth–early fifth century.

<sup>28</sup> *Pintye 2009* 188, *Cat. no. 47*, fig. 7. 1. Cp. also *Csallány 1961* 341, Taf. CXC. 11, dated to the Hunnic period/fifth century.

<sup>29</sup> *Pintye 2009* 171; *Béres–Vörös 1998* fig. 2. 3 and 180: the comb from Tápé is cited as the best analogous find, cp. note 31.

<sup>30</sup> Its best parallel is the comb from Grave 142 of the Szentes-Berekhát cemetery and the combs with similar incised or stab-and-drag decorative motifs (*Csallány 1961* Taf. LXXXII. 1).

<sup>31</sup> *B. Tóth 1994* fig. 2. 2. The other side bears a more sophisticated stab-and-drag pattern, the best parallel to the comb from Grave 1 of Apátfalva, cited above, see *Béres–Vörös 1998* 180. The Roman and Hun-period parallels to the ornamental motif on the front side plate, appearing on a wide range of artefacts, point towards a date in the fifth century, cp. *B. Tóth 1994* 290. Mention must be made here of a double-sided comb with stab-and-drag ornamentation recovered together with a Roman jug from a south to north oriented burial found at Temesvár. The motif adorning the comb matches the decoration of the Apátfalva comb (*Tánase 2011* Pl. CLV. 10; LIV. 3).

<sup>32</sup> *Papp – Salamon 1980* Taf. 54. 4. For the brooch type, see *ibid.* 87–89; *Kiss 1995* 308–309; *Straub 2008* 189–190 and fig. 1.

<sup>33</sup> *Salamon – Lengyel 1980* Pl. 3. 4 (Gr. 8).

<sup>34</sup> Sajószentpéter, Vasúti őrház, Features 880 and 1418 (*Pintye 2009* 189, *Cat. nos 49* and 51, fig. 8. 2–3).

<sup>35</sup> *Stanciu 2011* 362 and Pl. 12. 22. A Sarmatian material culture can be assumed in the area during the Imperial period, cp. *Gindele 2010* 94–99.

<sup>36</sup> *Csallány 1961* Taf. CXCI. 18 and Taf. CCLXIV. 1; for the site, see also *Bóna 2002b* 32.

<sup>37</sup> *Cat. no. 15*, a single-sided short comb, and *Cat. no. 5*, a single-sided long comb adorned with multiple wavy lines, can be assigned to this group too. For their discussion, see the sections on their types. Stab-and-drag decoration was only employed on double-sided combs at Szolnok-Szanda.

decoration occur on double-sided Imperial-period Sarmatian combs<sup>38</sup> and, although more rarely, on pieces from Marosszentanna–Chernyakhov contexts.<sup>39</sup> Most of their counterparts date from the Gepidic period; the highest number of similar pieces is known from the Szolnok area, principally from Szolnok-Szanda.<sup>40</sup> Good parallels to the decoration have been published from the Gepidic cemetery at Szolnok-Zagyva-part, Alcsi.<sup>41</sup> Some exemplars are decorated with intertwining pairs of stab-and-drag wavy lines.<sup>42</sup> The two pairs of stab-and-drag lines are combined with a band of vertical stab-and-drag lines on two combs from Szanda,<sup>43</sup> which compare well with a piece from Kiszombor.<sup>44</sup> Another variant has the motif enclosed within a linear frame,<sup>45</sup> whose parallels can be cited from Hajdúnánás<sup>46</sup> and Kengyel,<sup>47</sup> as well as from the Szentes-Berekhát site lying south of the Körös Rivers.<sup>48</sup> Fragments from similar combs are known from Szentes-Nagyhegy,<sup>49</sup> Hódmezővásárhely-Kishomok<sup>50</sup> and Singidunum.<sup>51</sup> The type is attested in Transylvania too, at Morești (Malomfalva),<sup>52</sup> Bratei (Baráthely)<sup>53</sup> and Cluj-Napoca (Kolozsvar).<sup>54</sup>

The motif appears in the middle part of *Cat. no. 10*, which, similarly to another exemplar, *Cat. no. 11*, is decorated with a combination of incised and stab-and-drag motifs. The entire composition of the former has good parallels in the above-cited southern cemeteries, the best coming from Berekhát<sup>55</sup> and Kiszombor.<sup>56</sup> Another good counterpart can be cited from Kiszombor, appearing on a single-sided comb.<sup>57</sup> The central stab-and-drag pattern combined with incised vertical lines, but lacking the diagonal stab-and-drag lines, is attested in the same region at Kiszombor;<sup>58</sup> a variant without the band of vertical lines enclosed in a stab-and-drag frame is known from Gorzsa,<sup>59</sup> while the diagonal line with a band of incised vertical lines separating the motifs from Berekhát.<sup>60</sup> One closely allied piece to *Cat. no. 10* in terms of technology is a comb from Magyartés, decorated with a delicate line between two stab-and-drag lines.<sup>61</sup> The decoration of *Cat. no. 11*, a fragment, on which the stab-and-drag wavy line

<sup>38</sup> Nyíregyháza-Császárszállás, Site M3 137, Feature 278 (*Pintye 2009* 172, 187, *Cat. no. 33*, fig. 7. 2), as well as a single-sided short comb from the same site, Feature 1331 (*Pintye 2009* fig. 15. 5), and on a composite comb from Polgár, Site 7, Feature 379 (*Pintye 2009* fig. 14. 5); for the decorative motif, see also *Medgyesi – Pintye 2006* 66–67.

<sup>39</sup> Mihălășeni, Grave 309 (*Șovan 2005* Pl. 306. 39).

<sup>40</sup> Szolnok-Szanda, Grave 50 (*Bóna 2002c* Taf. 35, Gr. 50. 1), Grave 119 (*ibid.* Taf. 44, Gr. 119. 1) and Grave 120 (*ibid.* Taf. 44, Gr. 120. 1).

<sup>41</sup> Szolnok-Zagyva-part, Alcsi, Grave 18 (*Cseh 2005a* Taf. 39, Gr. 18. 5).

<sup>42</sup> Szolnok-Szanda, Grave 103 (*Bóna 2002c* Taf. 42, Gr. 103. 1), Grave 107 (*ibid.* Taf. 42, Gr. 107. 1) and Grave 112 (*ibid.* Taf. 42, Gr. 112. 1). A similar comb has been published from the Bratei settlement in Transylvania: *Bârză 1995* fig. 17. 11.

<sup>43</sup> Szolnok-Szanda, Grave 22 (*Bóna 2002c* Taf. 32, Gr. 22. 1) and Grave 79 (*ibid.* Taf. 38, Gr. 79. 1).

<sup>44</sup> Kiszombor, Grave 54 (*Csallány 1961* Taf. CXVIII. 3; *Gepidák 1999* *Cat. no. 200*).

<sup>45</sup> Szolnok-Szanda, Grave 100 (*Bóna 2002c* Taf. 42, Gr. 100. 1) and Grave 102 (*ibid.* Taf. 42, Gr. 102. 1).

<sup>46</sup> Hajdúnánás-Fürj-halom-dűlő, Grave 839/1092 (*Stadler et al. 2008* Abb. 17. 7).

<sup>47</sup> Kengyel-Vígh-tanya, comb with Runic inscription (*Gepidák 1999b* *Cat. no. 222* and *Cseh 1999b* 68, fig. 8).

<sup>48</sup> Szentes-Berekhát, Grave 178 (*Csallány 1961* Taf. LI. 5), Grave 89 (*ibid.* Taf. LXXXIII. 11), Grave 188 (*ibid.* Taf. LXXXVI. 2) and Grave 262 (*ibid.* Taf. LXXXVI. 11).

<sup>49</sup> Szentes-Nagyhegy, Grave 40 (*Csallány 1961* Taf. XXXIV. 13) and Grave 65 (*ibid.* Taf. XXXVI. 14).

<sup>50</sup> Hódmezővásárhely-Kishomok, Grave 62 (*Bóna – Nagy 2002b* Taf. 17, Gr. 62. 1 and Abb. 45).

<sup>51</sup> Singidunum III, Grave 6 (*Ivanišević – Kazanski 2002* Pl. II. 6. 7; *Ivanišević 2009* 108–109, *Cat. no. 43*), dated to the first three quarters of the sixth century.

<sup>52</sup> *Csallány 1961* Taf. CCLXVIII. 3: the motif is framed by a stab-and-drag line.

<sup>53</sup> *Bârză 1995* fig. 17. 9: the motif is flanked by incised lines on the short sides.

<sup>54</sup> Florești-Polus Center, Grave CX 41B (*Ferencz – Nagy – Lăzărescu 2009* Pl. XVI. 1 and XVIII. 4). The motifs are framed on the long side and are separated by a band of vertical lines in the middle.

<sup>55</sup> Szentes-Berekhát, Grave 127 (*Csallány 1961* Taf. LXI. 1; CCLXVI. 8).

<sup>56</sup> Kiszombor, Grave 94 (*Csallány 1961* Taf. CXXV. 1; CCLXVI. 5).

<sup>57</sup> Kiszombor, Grave 376 (*Csallány 1961* Taf. CLIII. 4; CCLXIV. 7).

<sup>58</sup> Kiszombor, Grave 106 (*Csallány 1961* Taf. CXXIV. 21; CCLXIV. 8).

<sup>59</sup> Hódmezővásárhely-Gorzsa (*Csallány 1961* Taf. CCXXX. 11; CCLXVII. 9).

<sup>60</sup> Szentes-Berekhát, Grave 174 (*Csallány 1961* Taf. LIII. 17).

<sup>61</sup> Magyartés (*Csallány 1961* Taf. CCLXIV. 3; CX. 12). A similar decorative technique appears on a double-sided comb of uncertain date, a stray find from Ravelsbach in Lower Austria (*Pollak 1980* Taf. 96. 3).

appears along one long side of the side plate, is considerably more rare. Its best parallel is a stray fragment from Berekhát.<sup>62</sup>

In a recent study, Gábor Pintye noted that the ornamental repertoire of the Sarmatian- and Gepidic-period double-sided combs from the Hungarian Plain reflects different cultural contacts: Sarmatian-period decorative motifs have their counterparts in the provincial material and only a part of the ornamentation survived into the Gepidic period, while the new designs appearing in the Gepidic period have no known antecedents either in the province or on the Hungarian Plain.<sup>63</sup> The combs from Rákóczifalva can be divided into several groups in this respect: *Cat. no. 8* was recovered from a Sarmatian context, *Cat. no. 20* from a Hun-period burial and *Cat. no. 17* from a Gepidic pit, reflecting connections with the late Sarmatian period, Pannonia and the Hungarian Plain, respectively, during the Hunnic period. The Gepidic combs adorned with stab-and-drag wavy lines have clear Sarmatian- and Hun-period antecedents on the Hungarian Plain – this ornamentation is not attested elsewhere. *Cat. nos 10 and 11* have Gepidic parallels only.

Studies on combs generally note that similarly to the Gothic pieces, the double-sided Gepidic combs usually have differentiated teeth, coarser on one side and finer on the other.<sup>64</sup> However, the exemplars from Rákóczifalva indicate that this was not a general trait of Gepidic combs. The number of teeth and tooth gauges have been examined and analysed using various approaches, but opinions still differ as to the results that can be expected from these analyses.<sup>65</sup> At the same time, a long developmental sequence could be reconstructed from the detailed analysis of the combs from Wenigumstadt, although it must in all fairness be noted that an impressive comparative material from the earlier sixth to the mid-eighth century was available in this case.<sup>66</sup> Combs with differentiated teeth occur in high number in the Rhine region and the Alps during the Merovingian period too,<sup>67</sup> while coarse-toothed and increasingly longish double-sided combs are more typical from the seventh century onward.<sup>68</sup>

These studies focused on formal traits and did not examine possible correlations with manufacturing techniques. Still, it may be concluded that the number and gauging of comb teeth depended largely on the technological level. Combs with differentiated teeth were widespread in the Roman period; later, this survived in regions where comb production retained the technological level required for producing combs of this type.<sup>69</sup> In some regions, however, the asymmetrical tothing of combs survived despite a technological decline. Although Gepidic comb-making tools were generally unsuitable for creating the fine tothing typical of Roman combs, some pieces indicate that comb-makers nonetheless strove to produce combs with differentiated teeth.<sup>70</sup> Similarly to the Gepidic pieces, the thick teeth of the double-sided combs from the Bavarian cemeteries of Austria reflect a technological level clearly inferior to the one of the Roman period.<sup>71</sup> The increasingly longish form of early medieval combs

<sup>62</sup> *Csallány 1961* Taf. XCVII. 8.

<sup>63</sup> *Pintye 2009* 175.

<sup>64</sup> *Bóna – Nagy 2002b* 98.

<sup>65</sup> Counting the number of teeth did not yield any meaningful results during the assessment of the Säben cemetery: *Bierbrauer – Nothdurfter 2015* 426.

<sup>66</sup> *Stauch 2004* 196–204.

<sup>67</sup> *Dannheimer 1962* 103–104; *Koch 1967* 74–75; *Schneider-Schnekenburger 1980* 42, Taf. 1–3; *Koch 2001* 188–189.

<sup>68</sup> *Martin 1976* 102; *Stauch 2004* 175–183, 196–204; *Blaich 2006* 156–157. Several consecutive phases of the process could be demonstrated at Wenigumstadt. The average size of Gepidic combs is roughly 5×10 cm, the length of the Szöreg combs is 9.7–13 cm. *Török 1936* 23; *B. Tóth 2006* 74; *Nagy 2005* 145; *Pintye 2009* 176. A width of around 5 cm, a general trait, can be attributed to the properties of the antler raw material that limited size to some extent.

<sup>69</sup> E.g. in northern and central Italy (*Riemer 2000* 203, Abb. 21, Taf. 48–51).

<sup>70</sup> E.g. on some of the combs from Szentes-Berekhát (a few random examples: *Csallány 1961* Taf. LXVI. 3; LXXXII. 1).

<sup>71</sup> E.g. Rudelsdorf (*Deringer 1967a* 39, Textabb. 1, and 41, Textabb. 3, Abb. 4. 1), and a comb with a case from Kremsdorf (*ibid.* 54, Textabb. 8). Roman pieces can also be cited from the same region, from Enns (*Deringer 1967b* 68, Textabb. 9, and 71, Textabb. 13; the same pieces are illustrated in *Kloiber 1957* Taf. XLV. 2 and 11).

can perhaps be linked to this tendency. Double-sided combs with differentiated teeth are not known in the Sarmatian material.<sup>72</sup> In this sense, a major technological decline cannot be demonstrated on the Hungarian Plain; however, the toothing of some Gepidic combs does bear some resemblance to the Roman precursors.

#### *Double-sided combs with end profiling*

Double-sided antler combs with profiled ends are quite common in Pannonia and Moesia, but less frequently encountered in the Barbaricum. They appeared in the last third of the fourth century or perhaps slightly earlier, in the mid-fourth century.<sup>73</sup> Several variants can be distinguished west of the Vienna Basin;<sup>74</sup> the latest pieces were deposited in burials at the close of the fifth century in the Rhine region.<sup>75</sup> The use of these combs is attested after the Roman period among the Pannonian Germanic peoples,<sup>76</sup> but they are not encountered in the Langobardic cemeteries.<sup>77</sup> Combs of this type with a rich ornamental repertoire are abundantly attested along the Moesian *limes* and in the province's interior too.<sup>78</sup>

Mária Bíró classified the double-sided combs from Pannonia based on their ornamentation.<sup>79</sup> Although end profiling resembling the one on *Cat. no. 18*, a comb recovered from Grave 670/799 (*fig. 4*), occurs on several variants, the best parallel also represents the best counterpart to the comb's decoration.<sup>80</sup> This variant is characterised by two intersecting incised lines extending across the side plate. Pieces of this type are known from Brigetio and Tokod. The form of the corners on one of the exemplars from Tokod corresponds to the comb from Rákóczifalva,<sup>81</sup> while the design and the grooving along the edge resemble the other fragmentary pieces<sup>82</sup> to the extent that raises the possibility that they had been produced in the same workshop. Most combs with profiled ends are decorated with ring-and-dot motifs. Combs bearing other geometric motifs are known, for example, from Budapest-Gazdagrét, Csákvár, Tác-Gorsium and Biatorbágy, i.e. from north-eastern Pannonia.<sup>83</sup>

It would appear that combs with end profiling were not produced on the Hungarian Plain during either the late Roman or the Gepidic period.<sup>84</sup> Although they are occasionally encountered in the fourth–fifth-century material, their findspots lie not in the heartland of the Hungarian Plain, but in the Germanic frontier region (*fig. 3*). While the geographically closest parallels come from the settlements at Vác-Csörögi-rét<sup>85</sup> and Szurdokpüspöki-Hosszú-dűlő,<sup>86</sup>

The Viking Age combs from York, only some of which have teeth with different gauging, reflect a similar tendency: *MacGregor 1999 1934*.

<sup>72</sup> *Pintye 2009 176*.

<sup>73</sup> *Petković 1995* tabela 13a, has some types appearing from the mid-century, while *Keller 1971 112* broadly dates them to the century's later half. See also *Alföldi 1957 479*; *Kraskovská 1976 57*; *Grünwald 1981 22*. The Biatorbágy settlement was occupied from the turn of the fourth–fifth centuries to the 430s or perhaps the end of the Hunnic period (*Ottományi 2008a 184–185*).

<sup>74</sup> For the pieces from Britain, see *Clarke 1979 fig. 31*; for a large series from Trier, see *Binsfeld 1979 Taf. 76*; for pieces from Augst, see *Riha 1986 Taf. 5, 57–58, 21–22*; for the Bavarian pieces, see *Keller 1971 112–113*; for the distribution of a variant adorned with animal heads, see *Ruprechtsberger 1999 50–51, Abb. 21*.

<sup>75</sup> *Dannheimer 1962 39*; *Boosen 1985 295–300*; *Blaich 2006 155*.

<sup>76</sup> *Ottományi 2008a 148–151*; *Stanciu 2011 53*.

<sup>77</sup> *Bóna 2009 196*.

<sup>78</sup> Their distribution in Moesia Superior is restricted to the zone along the *limes* (*Petković 1995* Type 2, Karta 2, T. IV–VII); *Viminacium I: Ivanišević – Kazanski – Mastykova 2006* Pl. 9, Gr. 52. 2; for a large Bulgarian series from Pernik, see *Ljubenova 1981 obr. 100–101*. A similar comb was recovered from one of the towers of Gamzigrad (Romuliana) together with a single-sided Marosszentanna–Chernyakhov-type comb (*Petković 2011 Abb. 8*), while a horse-headed, triangular-backed comb with a case was recovered from a lower-lying layer (*ibid. Abb. 7*).

<sup>79</sup> *Bíró 2002 32–44*; *Szabó – Vaday 2011 15*.

<sup>80</sup> *Bíró 2002 39, I/2.5*.

<sup>81</sup> *Bíró 2002 fig. 35*.

<sup>82</sup> *Bíró 2002* figs 34–38.

<sup>83</sup> *Ottományi 2008a 148–151, fig. 11. 1–5, fig. 12. 2–4*.

<sup>84</sup> *Pintye 2009 176*; *Nagy 2002 97*.

<sup>85</sup> *Kulcsár 2004 fig. 2. 2*.

<sup>86</sup> *Szabó – Vaday 2011* Pl. 8. 1–2.

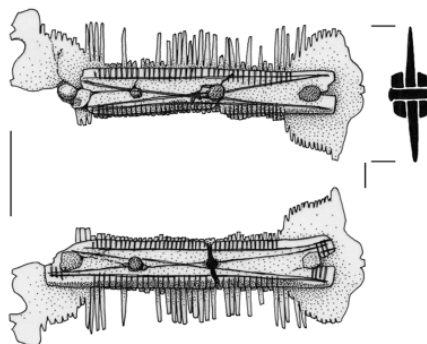


fig. 4. Double-sided antler comb with end profiling and incised decoration from Rákóczifalva  
Cat. no. 18

the craftsmanship of the Pannonian combs is closer to the exemplar from Rákóczifalva. The same holds true for the two combs from Szurdokpüspöki, whose best counterparts are known from the Aquincum area.<sup>87</sup> Two pieces are known from the eastern boundary of the Sarmatian distribution. The comb with end profiling decorated with an incised design from Valea lui Mihai-“Groapa cu lut” (Érmihályfalva, Új sárgaföldes gödör; Romania) is sadly a stray find;<sup>88</sup> in contrast, the other comb comes from a well datable Hun-period grave group uncovered at Timișoara-Freidorf (Temesvár-Freidorf, Romania).<sup>89</sup>

According to Mária Bíró, this is the single double-sided Pannonian comb type adorned with geometric motifs that has no analogies on the Hungarian Plain and thus obviously reflects the artistic taste of the western provinces.<sup>90</sup> The exemplar from Rákóczifalva enables the incorporation of the type into the general tendencies of the Carpathian Basin. At the same time, it must also be borne in mind that its exact counterparts are only known from the province, from areas near military installations along the *limes*, and that bone-working workshops can be assumed on both Pannonian sites.<sup>91</sup>

This comb type has no parallels from the period of the Gepidic row-grave burial grounds on the Hungarian Plain, suggesting that combs of this type had not been deposited in burials after the middle third of the fifth century in the Carpathian Basin.<sup>92</sup> The appearance of isolated finds on the Hungarian Plain and the very fact that it has more parallels in Pannonia than in eastern Hungary most likely reflects the Pannonian origin of these articles.

#### *Single-sided arched-backed combs*

The single fragment of this comb type, *Cat. no. 3*, was recovered from a Sarmatian pit (*fig. 5. 1*). This piece represents the earliest comb type at the site. A number of terminological issues need to be clarified regarding the type: the back of arched-backed combs is slightly irregularly curved and the side plates do not have a regular geometric form. The type is related to and, to some extent, the precursor of several single-sided composite comb types current in the Barbaricum during the Imperial period. These are represented by round-backed

<sup>87</sup> Budapest-Gazdagrét, Grave 70 (Szabó – Vaday 2011 16).

<sup>88</sup> Stanciu 2011 369, Pl. 12. 24. The site also yielded a double-sided comb (*ibid.* Pl. 12. 23).

<sup>89</sup> Mare 1998 Pl. VI. 4; mentioned by Harhoiu 1997 191, Cat. no. 87.

<sup>90</sup> Bíró 2002 39–60.

<sup>91</sup> For a discussion, see Szabó – Vaday 2011 9.

<sup>92</sup> One fragment comes from the Bratei settlement (Bârzu 1995 fig. 17. 1). A few pottery fragments would suggest that the feature can be assigned to the settlement’s early, fourth–fifth-century (Maroszentanna) phase, or that it contained earlier material: *ibid.* fig. 9. 14–15, 18, fig. 10. 12; for the phase, see *ibid.* 240–241.

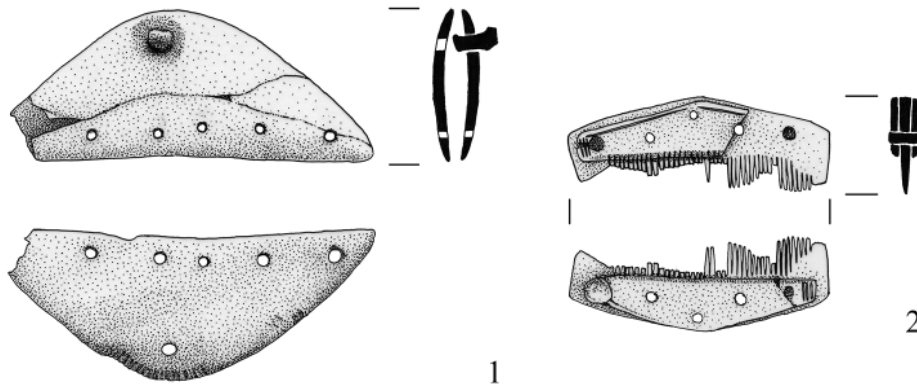


fig. 5. Two side plates of an arched-backed comb and a triangular-backed comb from Rákóczifalva  
1: Cat. no. 3, 2: Cat. no. 19

composite combs (“mit Kreisförmigen Griff”),<sup>93</sup> bell-backed combs (“mit glockenförmigen Griff”), lobed-backed combs and their composite variants (“mit halbrund erweiterter Griffplatte”, “abgesetzter halbkreisförmigen Griffplatte”),<sup>94</sup> as well as by triangular-backed combs<sup>95</sup> (see below). Several transitional forms can be distinguished and early round-backed combs are sometimes treated together with arched-backed combs, for example in the case of the round-backed combs with silver rivets from Ostrovany (Oztrópataka, Slovakia) and Grave II of Straže,<sup>96</sup> which can be seen as the formal forerunners of arched-backed combs. A few exemplars of another type appear at the end of this period in eastern Hungary: this variant is designated as round-backed composite comb in Hungarian scholarship.<sup>97</sup> In order to avoid confusion, in the following I shall designate this extremely rare type with openwork side plates as Békéscsaba-type comb (fig. 8).

Round-backed and arched-backed combs appear quite early in the Barbaricum, where the type is assumed to have evolved. These combs are dated to the B2/C1–C1a period in the Wielbark distribution and in northern Mazowia.<sup>98</sup> They were widely used among the Germanic groups of the Elbe region and appeared in the Alemannic lands from the later third century or the century’s middle third, although only along the *limes*.<sup>99</sup> The type is attested in Lower Austria,<sup>100</sup> Moravia<sup>101</sup> and eastern Slovakia.<sup>102</sup> It was extremely popular in the Maroszentanna–Chernyakhov culture: most of the pieces assigned here are either plain or adorned with simple geometric linear patterns.<sup>103</sup> These combs are securely attested in the C3 period and their use continued in the C3/D1 and D1 horizons.<sup>104</sup> The three combs brought to light from Feature 125/92 at Bratislava-Dúbravka offer some indication of the

<sup>93</sup> Thomas’ Type I incorporates this type and the lobed-backed variant (Thomas 1960 77–94).

<sup>94</sup> Assigned to Type III by Thomas (Thomas 1960 104–114). Bíró 2002 55–56, designated bell-backed combs as “humpbacked combs” and the other two as combs “with semicircular handle” (*ibid.* 49–55). These labels are not used here owing to the different nature of the barbarian material.

<sup>95</sup> Thomas’ Type II (Thomas 1960 94–104).

<sup>96</sup> Prohászka 2006 84, Abb. 86, Taf. 5. 1; Prohászka 2006 101, dates the grave to between 270–290.

<sup>97</sup> Medgyesi – Pintye 2006; Pintye 2009 181–182. Gábor Pintye called this variant Intercisa-type comb, but this label is reserved for the lobed-backed combs with figural and stab-and-drag ornamentation (Salamon 1976 214; Bíró 2002 50).

<sup>98</sup> Lau 2012 72–73; for their Northern European distribution, see Ambrosiani 1981 18–20, fig. 6.

<sup>99</sup> Schach-Dörjes 1994 661–675.

<sup>100</sup> For example at Ebendorf (Pollak 1980 Taf. 13. 8), Maiersch (*ibid.* Taf. 42. 10), Straning (*ibid.* Taf. 147. 1–3, 148. 3–8, 149. 1–4); Zaingrub (*ibid.* Taf. 199. 13).

<sup>101</sup> E.g. the ring-and-dot ornamented comb from the inurned burial at Komín (Tejral 1975 Taf. 13. 5).

<sup>102</sup> Lamiová-Schmiedlová 1964 obr. 1–2; Pintye 2009 181.

<sup>103</sup> Palade 2004 208; Šovan 2005 155–156, Pl. 304–305.

<sup>104</sup> Tejral 1997 235, 237, Abb. 5–7.

upper chronological boundary of the use of round-backed combs since they represent Thomas' Types I, II and III: in other words, in addition to a triangular and round-backed variant, an arched-backed comb was also part of the assemblage.<sup>105</sup> Kristian Elschek dated the sunken house to the C3/D1 period.<sup>106</sup> Although this comb type is uncommon in Pannonia and Moesia,<sup>107</sup> an arched-backed comb with stab-and-drag decoration has been recently found in one of the burials of the eastern cemetery of the civilian town at Aquincum, indicating that they were sporadically used in the Danubian provinces too.<sup>108</sup>

Based on the overviews focusing on one or another region, arched-backed combs can be seen as being of eastern or northern origin on the Hungarian Plain (*fig. 6*).<sup>109</sup> The deposition of antler combs was not part of the funerary rite in the Sarmatian territory on the Hungarian Plain and therefore arched-backed combs do not appear in Sarmatian burials, the single exception being a round-backed piece with ornamented front side plate, an early forerunner of the type discussed here, recovered from a Sarmatian burial at Tiszavasvári (*fig. 9*). The cemetery section uncovered at the site can be dated to the late second–early third century.<sup>110</sup> Arched-backed combs occur more frequently on Sarmatian settlements.<sup>111</sup> Their side plates are generally decorated with ring-and-dot, stab-and-drag or incised motifs; the single undecorated arched-back piece aside from the Rákóczifalva exemplar comes from Nagytarcsa-Urasági-dűlő.<sup>112</sup> Two low round-backed combs came to light on the Imperial-period Germanic settlement at Ózd, which, similarly to the piece from the Tiszavasvári burial, can be assigned to the earlier round-backed type.<sup>113</sup> The same holds true for a comb from Vác, which was found in a mixed, Sarmatian–Germanic (Quadic) context.<sup>114</sup> An ornamented arched-backed comb is known from the fourth–fifth-century settlement at Tiszaladány, a site lying near the Sarmatian–Germanic borderland.<sup>115</sup> Plain and decorated arched-backed combs were both brought to light on the Germanic settlements at Szirmabesenyő and Garadna,<sup>116</sup> and mention must be made of the arched-backed comb from Lazuri-Lubi tag.<sup>117</sup>

In sum, we may say that although this comb type was initially associated with the Marosszentanna–Chernyakhov culture on account of the grave goods, it has since become clear that the type was widely distributed on the Hungarian Plain and in the north-eastern foreland of the Carpathians. In these regions, arched-backed combs are recovered not from burials, but are almost exclusively found on settlements and are therefore unsuitable for a closer dating. Moreover, the contexts of most Sarmatian pieces are generally unpublished. Thus, their origin remains uncertain on the Hungarian Plain, and neither can we determine when exactly they appeared west of Transylvania. A northern origin can perhaps be assumed from the fact that these combs can only be found among the Sarmatians living in the northern part of the Hungarian Plain and that the southern boundary of their distribution is marked by the Rákóczifalva comb,<sup>118</sup> the implication being that they cannot be seen as unambiguously

<sup>105</sup> Elschek 1993, obr. 14. 1, 3–4; Tejral 2011 Abb. 83, 1. 4–6.

<sup>106</sup> Elschek 1993 33.

<sup>107</sup> Petković 1995; Bíró 2002.

<sup>108</sup> Lassányi 2010 32–33, fig. 11; Aquincum 2012 95, Cat. no. 178.

<sup>109</sup> Pintye 2009 182–183.

<sup>110</sup> Tiszavasvári, Városföldje, Jegyző tag, Grave 35 (Istvánovits 1990 88, Appendix 6, Pl. XXV. 1). The comb lay under the chest, similarly to the Marosszentanna–Chernyakhov-type comb found in Grave 260 at Szeged-Kundomb, a Sarmatian burial (see below). For the comb types of the Sarmatian burials of the Hungarian Plain, see Istvánovits 1998 313; Pintye 2009 166.

<sup>111</sup> Pintye 2009 Type V, 176–181, fig. 13, fig. 14. 1–2.

<sup>112</sup> Pintye 2009 181, fig. 13. 4.

<sup>113</sup> Párducz – Korek 1958 34, Pl. VIII. 1, 3, 6–7.

<sup>114</sup> Vác-Csörögi-rét (Kulcsár 2004 fig. 2. 1).

<sup>115</sup> Tiszaladány-Nagyhomokos, Pit 2 (Lovász 1993 84, Pl. VIII).

<sup>116</sup> Szirmabesenyő (K. Végh 1975 91, 128, Pl. XXIV. 2, 5–6); Garadna (Csengeri – Pusztai 2008 99–100); Pintye 2009 181.

<sup>117</sup> Stanciu 2011 Pl. 1. 17.

<sup>118</sup> Pintye 2009 177. However, this could also be simply a reflection of the state of research.

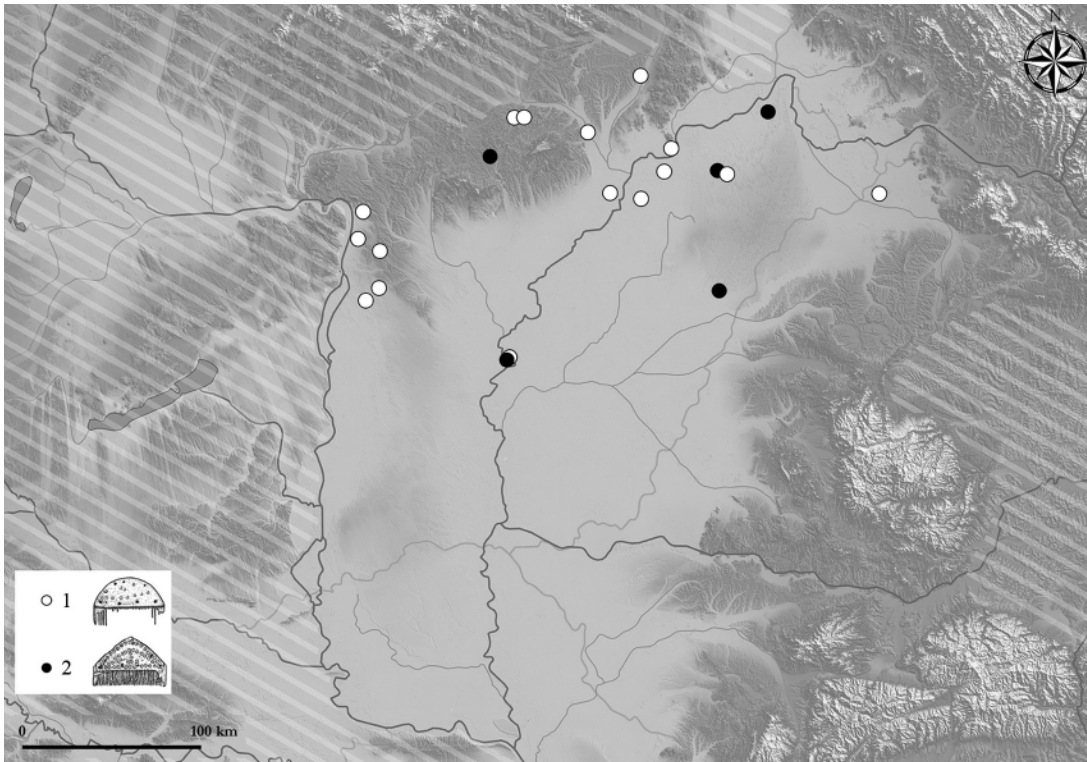


fig. 6. Distribution of arched-backed (1) and triangular-backed combs (2) in the Sarmatian Barbaricum on the Hungarian Plain and in the neighbouring Imperial-period Germanic borderland up to the mid-fifth century. After *Pintye 2009*, with the new finds. White zones: unmapped (Pannonia, northern Germanic Barbaricum, Maroszentanna culture)

indicating an influence from the Chernyakhov culture, or from eastern Germanic or Gothic groups.

Combs of this type are not attested in Hun-period burials either in the Sarmatian or the Germanic territories in Hungary. However, this is unsuitable for a closer dating and their use can hardly be excluded during the Hun period. The current evidence would suggest that the use of these combs can be linked to the population living in the region during the Roman period and that the communities that deposited combs in their burials preferred other types. Given that the survival of the Hun-period population on the Hungarian Plain and in the Northern Mountain Range is uncertain, the upper chronological boundary of the use of these combs is similarly uncertain. What we do know is that their use did not extend into the Germanic period of the Carpathian Basin, when the custom of depositing combs in burials was quite widespread, but this type does not occur among the pieces recovered from graves or found on settlements. The Rákóczifalva site is a good example in this respect: a double-sided comb with stab-and-drag decoration can be dated to the same period, indicating a late date for the arched-backed comb in the late fourth–early fifth century (C3–D1/D2). At the same time, the type has not been found in Germanic burials or Gepidic contexts at Rákóczifalva either.

#### *Single-sided triangular-backed combs*

Single-sided triangular-backed combs were extremely widespread in the Gallic provinces, along the *limes* in the Rhineland, in the western Germanic lands, in central Germany and in Bohemia from the early fourth century onwards, while very few are known from eastern Germanic sites,<sup>119</sup> and they are equally rarely encountered east of Pannonia, in the Lower

<sup>119</sup> *Thomas 1960* Karte 7; *Dannheimer 1962* 38–39; *Böhme 1974* 120–126; *Schach-Döriges 1994* 670–694.



Danube region and in the Pontic.<sup>120</sup> The more westerly distribution of triangular-backed combs as compared to the round- and arched-backed types and double-sided combs was noted quite early in the period's scholarship.<sup>121</sup> Sigrid Thomas distinguished two main variants, a high- and a low-backed type,<sup>122</sup> but this classification cannot be generally applied in Central Europe.<sup>123</sup>

The boundary of its intensive distribution can be drawn in the Middle Danube region. This comb type also occurs in higher numbers along the Austrian *limes* and in Pannonia.<sup>124</sup> It is quite common in the Marcomannic–Quadic territory in the Barbaricum,<sup>125</sup> but its use was not widespread on Sarmatian settlements and among the Germanic peoples of the Imperial period in Hungary (*fig. 6*).<sup>126</sup> The single triangular-backed comb recovered from a Hun-period burial found east of the Danube in the Carpathian Basin is the piece from the girl's grave uncovered at Kisvárda-Darusziget.<sup>127</sup> This burial was initially dated to the fourth century on the basis of the comb, but the other grave goods – shoe fittings and a funnel-necked grey jug – rather indicate a date around the turn of the fourth–fifth centuries at the earliest.<sup>128</sup> To the best of my knowledge, the closest parallels to this comb with its high-backed side plates and ring-and-dot ornamentation come from Pannonia.<sup>129</sup>

The burial of the man laid to rest with a *spatha* (Grave 8A/697/826) yielded two combs: a single-sided piece (*Cat. no. 19, fig. 5. 2*) and a double-sided exemplar with incised decoration (*Cat. no. 20, fig. 1. 1*). The low-backed side plates with straight-cut edge of *Cat. no. 19* are sparsely decorated: the end plates are straight and the comb's size is small. It can be assigned to the low-backed variant in Thomas' typology; however, it lacks a truly good analogy among the pieces assigned to this variant.<sup>130</sup> Neither can the comb from the Kisvárda burial, lying near the Sarmatian/Germanic cultural border in the Imperial period, be regarded as a good parallel to the Rákóczifalva comb.

Better analogies can be found on Roman territory, especially towards the west. The majority of the triangular-backed Pannonian combs can be assigned to the high-backed type on which the angle of the triangle's sides approximates a right-angle.<sup>131</sup> These combs are generally adorned with ring-and-dot motifs, sometimes combined with incised and stab-and-drag patterns. Variants with straight-ended side-plates resembling the exemplar from Rákóczifalva are known from the *limes* and north-western Valeria.<sup>132</sup> The best parallel to the Rákóczifalva comb is a piece from Gorsium representing a unique variant of the type in Pannonia.<sup>133</sup> Its proportions are lower than usual, with the sides enclosing an obtuse angle. In contrast to the other more richly ornamented pieces, this exemplar only bears incised

<sup>120</sup> *Bíró 2002* 49; Moesia Superior: *Petković 1995* Types V–VI, Karta 4; Gamzigrad: *Petković 2011* Abb. 7.

<sup>121</sup> *Böhme 1974* 120.

<sup>122</sup> *Thomas 1960* 94–104, Type II. These are generally 8–12 cm long and 2.5–4.5 cm wide. The earlier high-backed variant appeared at the onset of the fourth century and was probably still used in the mid-fifth century.

<sup>123</sup> *Böhme 1974* 122–126; *Schach-Döriges 1994* 680–681.

<sup>124</sup> *Bíró 2002* 44–49, and e.g. Wien-Lepoldau (*Beninger 1934* Abb. 37; *Deringer 1967b* 62–63, Textabb. 2–3).

<sup>125</sup> E.g. Ravelsbach (*Pollak 1980* Taf. 96. 2); Bratislava-Dúbravka (*Elschek 1993* obr. 14. 4; *Tejral 2011* Abb. 83. 5); Chrlice (*Tejral 1982* 202, Abb. 77).

<sup>126</sup> The low triangular-backed comb from Nyíregyháza assigned to Type VII by *Pintye 2009* 182, exhibits certain elements of the fifth-century formal changes. For its parallels, see the section on the short combs of the Gepidic period.

<sup>127</sup> *Németh 1987* 219; *Istvánovits 1998* fig. 4. 1; *B. Tóth 1999a* fig. 5.

<sup>128</sup> *Istvánovits 1998* 316, note 31.

<sup>129</sup> *Bíró 2002* 49, figs 89–98, esp. figs 96 and 98, and the ornamentation of the animal-headed comb from Lébény (*ibid.* fig. 84; *Tejral 2011* Abb. 139).

<sup>130</sup> *Thomas 1960* 101–102.

<sup>131</sup> *Bíró 2000* 86; *Bíró 2002* figs 84–98.

<sup>132</sup> Győr (*Bíró 2002* fig. 90), Szöny (*ibid.* 91) and Csákvár (*ibid.* 97). For the latter, see also *Tejral 2011* Abb. 105. 9. A comparable variant with stab-and-drag ornamentation comes from Mödling, Grave 2 (*Tejral 2011* Abb. 104. 1), dated to the D2 period (*Tejral 2011* 145).

<sup>133</sup> *Bíró 2002* 49, fig. 99, from the fill of Building XIV at Gorsium.

marginal lines along the edges. A more westerly, solitary parallel comes from Augst<sup>134</sup> and another comparable piece is known from Pontes in Moesia.<sup>135</sup>

The later single-sided short combs of the Germanic lands (see below) can be seen as distant counterparts of the Rákóczifalva comb. However, these can rather be regarded as late derivatives, whose technical traits differ from the site's Gepidic-period combs. It has no truly good analogies in the Gepidic and Langobardic cemeteries of the Carpathian Basin. A similarly small, single-sided comb with an unparalleled decoration has been reported from the Langobardic cemetery excavated at Szentendre, but this piece has rounded end plates.<sup>136</sup>

In sum, this small comb was probably the product of a provincial Pannonian or perhaps Moesian workshop. It definitely reflects a Roman taste on the Hungarian Plain. It cannot be more closely dated within the broad date between the late fourth and the mid-fifth century. The combs cited as parallels are all individual pieces, which cannot be ordered into a typological sequence – they are rather rare variants of single-sided combs evolving in various regions independently of each other.<sup>137</sup>

Triangular-backed combs did not attain popularity in the eastern half of the Carpathian Basin. The few sporadic pieces reflect Roman contacts and can probably be regarded as having a direct Roman origin.

### *Single-sided long combs*

Considerably fewer single-sided combs than double-sided ones are known from the Gepidic material of the Hungarian Plain, as reflected also in the proportions of the comb finds from Rákóczifalva. They can be divided into two main types: short and long combs. Single-sided long combs were a more widespread, but rarely used type and are even less frequent than the short versions of single-sided combs.<sup>138</sup>

The craftsmanship of *Cat. no. 9* differs little from the medium quality double-sided pieces found on the Hungarian Plain (*fig. 7. 3*). Its decoration is closest to *Cat. no. 4*, a double-sided comb fragment: although the motifs differ, both are ornamented with incised geometric motifs on the front and back plate. Their best counterparts can be found among double-sided combs adorned with multiple diagonal lines and bundles of vertical lines,<sup>139</sup> or cross-shaped motifs of multiple lines.<sup>140</sup> A close analogy to the decoration on a single-sided short comb comes from Grave 183 of the Szentes-Berekhát cemetery,<sup>141</sup> while the best counterpart is the long comb from Grave 73 of Kishomok, which also bears an incised design made up of various simple geometric motifs. The plates were riveted together with bronze rivets.<sup>142</sup>

The stab-and-drag ornamentation of *Cat. no. 5* compares well with the decoration of the settlement's double-sided combs and of *Cat. no. 15*, a single-sided short comb (*fig. 7. 5*). Similarly to the short combs, stab-and-drag decoration is rare on this variant and only a

<sup>134</sup> *Riha 1986* Taf. 5. 55; 64. 55, dated to the fourth–earlier fifth centuries after Thomas (*ibid.* 21).

<sup>135</sup> *Petković 1995* Taf. VII. 1 and 129. The comb is decorated with ring-and-dot motifs enclosed within a frame following the edge. It is believed to be a Germanic import, dated to the earlier or mid-fifth century based on its stratigraphic position.

<sup>136</sup> Szentendre-Pannoniatelep, Grave 9 (*Bóna – Horváth 2009* Taf. 37, Gr. 9. 3; 155. 9). *Ibid.* 196 Bóna called it a beard comb.

<sup>137</sup> The dating of the burial might be modified following the assessment of the other grave goods.

<sup>138</sup> I assigned the pieces with a length of at least 15–16 cm to the long variant, while the short variant comprises the combs with a length of up to *cca.* 12 cm.

<sup>139</sup> Rákóczifalva-Kastélydomb, Graves 176 and 178 (*Cseh 2005b* Taf. 42, Gr. 176. 1 and Gr. 178. 1), Magyartés (*Csallány 1961* Taf. CVII. 14; CCLXI. 5) and Szöreg-Téglagyár, Grave 30 (*ibid.* Taf. CLXVII. 19; CCLXVII.1; *Nagy 2005* Taf. 52, Gr. 30. 1).

<sup>140</sup> Hajdúnánás, Fűrj-halom-dűlő, Grave 444/620 (*Stadler et. al. 2008*, Abb. 17. 6), Szentes-Kökényzug, Grave 60 (*Csallány 1961* Taf. XV. 5; CCLXVII. 6), Szentes-Berekhát, Grave 93 (*ibid.* Taf. CXXV. 5; CCLXV. 7), Hódmezővásárhely-Kishomok, Grave 89 (*Bóna – Nagy 2002b* Taf. 24, 9. 1) and Bratei, stray finds (*Bárzu 2010* Taf. 84. 4–5).

<sup>141</sup> *Csallány 1961* Taf. LXXXI. 5; CCLXII. 3.

<sup>142</sup> *Bóna – Nagy 2002b* 98, citing the comb from Grave 404 of Kiszombor as the best analogy.

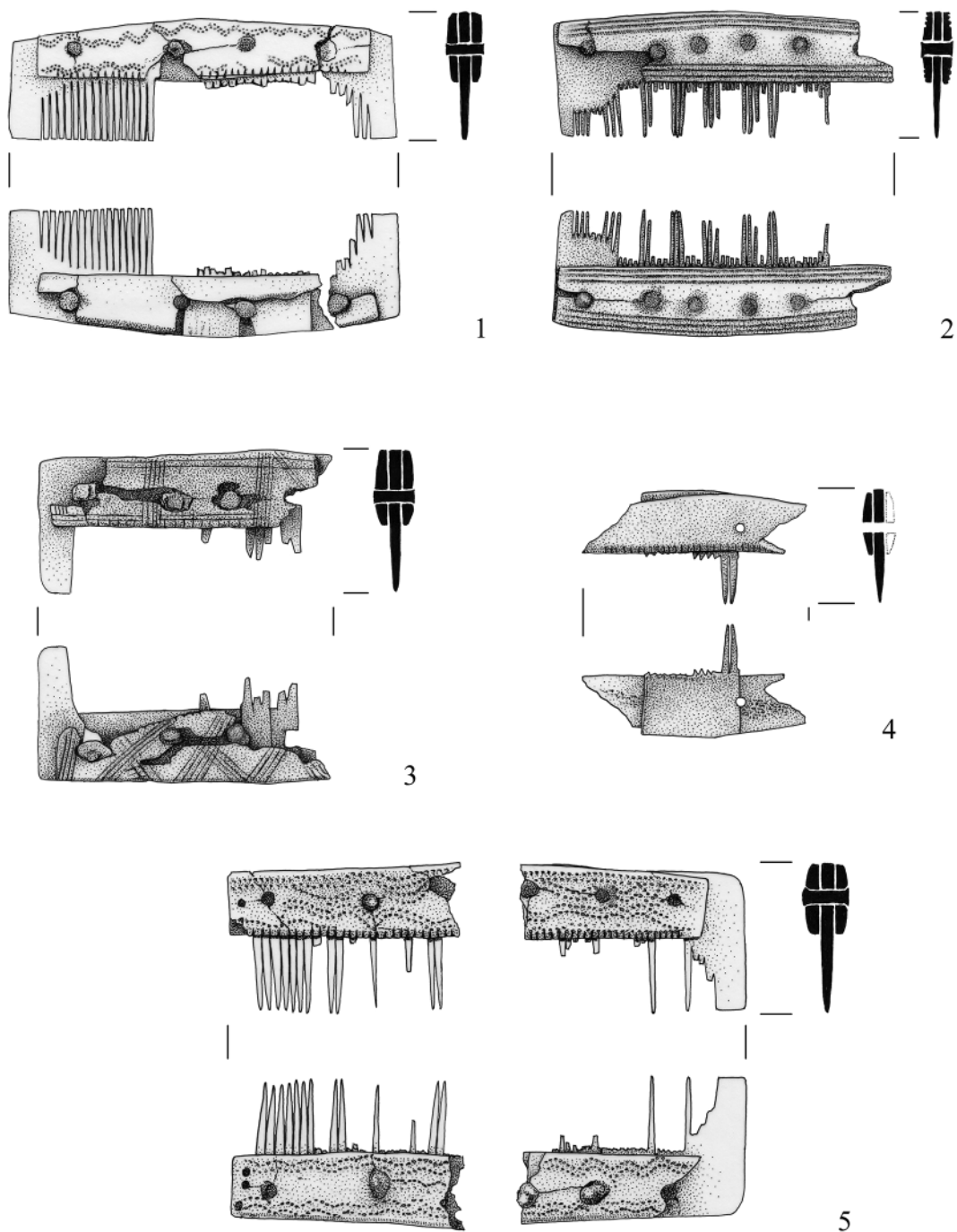


fig. 7. Single-sided short and long combs from Rákóczifalva 1: Cat. no. 15, 2: Cat. no. 6, 3: Cat. no. 9, 4: Cat. no. 7, 5: Cat. no. 5

single good analogy can be cited, which comes from Berekhát.<sup>143</sup> This decorative technique is virtually unknown on Langobardic combs: the single known piece with a single stab-and-drag line decoration was found at Tamási; however, the irregular design and the pattern extending to the end plate is not encountered in the Gepidic material.<sup>144</sup>

<sup>143</sup> Szentes-Berekhát, Grave 41, peaked-backed comb with honeycomb ornamentation (*Csallány 1961* Taf. LVI. 20; CCLXVI. 1).

<sup>144</sup> *Bóna – Horváth 2009* Taf. 78, Gr. 45. 1.

Aside from Rákóczifalva, single-sided long combs are known from Szentes-Berekhát,<sup>145</sup> Hódmezővásárhely-Kishomok,<sup>146</sup> Szőreg<sup>147</sup> and Kiszombor.<sup>148</sup> Grave 75 of the Kishomok cemetery can be dated to the turn of the fifth and sixth centuries, marking the date of the type's appearance on the Hungarian Plain.<sup>149</sup> A similar date seems likely for Grave 27 of the Szőreg burial ground.<sup>150</sup> The decorative technique of the comb from Grave 66 of Berekhát and the ornamental motifs on the exemplars from Graves 354 and 404 of Kiszombor are intrusive in the Gepidic lands (see below), while the comb from Grave 73 of Kishomok has bronze rivets, which are rarely encountered in the Gepidic material.

The above would suggest that the appearance of single-sided long combs on the Hungarian Plain can be attributed to intrusive, western impacts.<sup>151</sup> The formal variations and a part of the decoration – some of the incised motifs and the use of stab-and-drag designs – fit in nicely with the material from the Hungarian Plain. This would suggest that a local production can also be assumed in the case of the long variants of single-sided combs. The two exemplars from Rákóczifalva can be assigned to the latter group.

### *Single-sided short combs*

Two combs of differing form and ornamentation can be assigned to this type. *Cat. no. 15* is decorated with stab-and-drag wavy lines (*fig. 7. 1*). Similarly to the long combs, stab-and-drag decoration is also infrequent on single-sided short combs. One good Sarmatian-period precursor is known from a settlement,<sup>152</sup> while the single Gepidic parallel comes from Kiszombor.<sup>153</sup> Another good analogy is the comb decorated with a combination of incised and stab-and-drag motifs from Grave 9, a male burial, of Szőreg.<sup>154</sup>

*Cat. no 6*, a single-sided comb with incised decoration, has no exact counterpart from the Gepidic settlement territory (*fig. 7. 2*). It has a good match in one of the long combs from the Szentes-Berekhát cemetery,<sup>155</sup> which is also similar in terms of its curved-backed form. Unlike on most single-sided Gepidic combs, the side plates on these two exemplars extend to the edge of the end plates. Both have a decoration of a bundle of three parallel lines, which on the piece from Berekhát is combined with ring-and-dot motifs. Since this decorative technique is intrusive on Gepidic territory (see below), it seems likely that the Berekhát comb originates from the west, which is also underpinned by its parallels from Langobardic

<sup>145</sup> Szentes-Berekhát, Grave 66 (*Csallány 1961* Taf. LXXI. 1; CCLXIII. 4) and Grave 68 (*ibid.* Taf. LXXX. 14) both yielded curved-backed long combs. For the comb from Grave 66, see also *GHA 1987* 234, and *Gepidák 1999* 150, *Cat. no. 215*, with a colour photo before p. 113, based on which it seems that it was riveted with bronze and iron rivets.

<sup>146</sup> Hódmezővásárhely-Kishomok, Grave 73 (*Bóna – Nagy 2002* Taf. 19, Gr 73. 1), with a more strongly curved back.

<sup>147</sup> *Nagy 2005* Abb. 13. 27, Taf. 52, 27. 1.

<sup>148</sup> Kiszombor, Grave 44 (*Csallány 1961* Taf. CXV. 27): the side plate is strongly peaked; Kiszombor, Grave 354 (*ibid.* Taf. CXXIX. 1; CCLXIII. 1): ring-and-dot ornamented wide side plate; Kiszombor, Grave 404 (*ibid.* Taf. CCLXVI. 5; CLII. 1; *Gepidák 1999* *Cat. no. 213*). The narrow side plate is decorated with incised “hourglass” motifs, see the section on double-sided combs.

<sup>149</sup> *Bóna – Nagy 2002b* 95, Abb. 75. The comb was found with two biconical cups. The dating is highlighted here because according to *Bóna 2009* 198, the comb was a Pannonian Langobardic product, which would only be acceptable in the case of a later date.

<sup>150</sup> *Nagy 2005* Abb. 13, Taf. 52, 27. 7. It was found together with a biconical mug with smoothed-in decoration, while the grave itself lay beside two burials dated to the earlier sixth century (*ibid.* Abb. 49). The other three burials containing this pottery ware (II/A) can be assigned to the later fifth century (*ibid.* Abb. 48).

<sup>151</sup> *Bóna 2009* 198, too regarded the comb from Grave 66 of Berekhát as being a Langobardic product. The Langobardic origin of the other combs cited here can be challenged.

<sup>152</sup> Nyíregyháza-Császárszállás, Site M3 137, Feature 1331 (*Pintye 2009* *fig. 15. 5*). For the ornamental motifs, see the section on double-sided combs.

<sup>153</sup> Kiszombor, Grave 101 (*Csallány 1961* Taf. CXXXII. 1; CCLXVI. 9). The short side of the design is also framed.

<sup>154</sup> *Csallány 1961* Taf. CLXIII. 2; *Nagy 2005* Grave 9, Abb. 13. 9 and Taf. 48, Gr. 9. 1.

<sup>155</sup> Szentes-Berekhát, Grave 66 (*Csallány 1961* Taf. LXXI. 1; CCLXIII. 4). It was found together with a large bone implement of unknown function, *ibid.* Taf. LXXI. 2.

contexts: these formal traits and this decorative technique occur on the most widespread comb types found in Langobardic cemeteries.<sup>156</sup> The best analogies to the Rákóczifalva comb are the long combs framed with incised lines from Kápolnásnyék,<sup>157</sup> Gyöng, <sup>158</sup> Szentendre,<sup>159</sup> Tamási,<sup>160</sup> Poysdorf,<sup>161</sup> Straß,<sup>162</sup> Borotice,<sup>163</sup> Holubice<sup>164</sup> and Lužice.<sup>165</sup> The combination of the incised frame with ring-and-dot motifs as on the Berekhát long comb is quite frequent in the Langobardic material, as shown by the side plate of a composite long comb from Kajdacs,<sup>166</sup> the short<sup>167</sup> and the long combs from Szentendre,<sup>168</sup> a fragment from Tamási<sup>169</sup> and a long comb from the same site,<sup>170</sup> as well as the combs from Borotice,<sup>171</sup> Holubice,<sup>172</sup> Lužice,<sup>173</sup> Šlapanice<sup>174</sup> and Sokolnice.<sup>175</sup> The end plates of two combs from Rácalmás<sup>176</sup> and of a fragment from Tamási,<sup>177</sup> three combs from Szentendre<sup>178</sup> and the long combs from Tamási,<sup>179</sup> Šaratic,<sup>180</sup> Holubice,<sup>181</sup> Čejkovice,<sup>182</sup> Lužice<sup>183</sup> and Pottenbrunn<sup>184</sup> are all decorated with ring-and-dot motifs arranged diagonally as on the side plates of the Berekhát comb. The side plates of the quoted pieces are generally adorned with an incised design combined with ring-and-dot and other motifs. The occasional Langobardic cased combs are usually ornamented with similar designs made using the same techniques.<sup>185</sup> Thus, incised decoration is often coupled with the ring-and-dot motifs so popular in the Langobardic material, although these motifs are virtually exclusive to long combs.

*Cat. no. 6* was undoubtedly made by a comb-maker familiar with Pannonian workshop traditions or was perhaps of direct Pannonian descent. The curved-backed comb from Grave 160 of the nearby Gepidic cemetery of Rákóczifalva-Kastélydomb too has an individual decoration of ring-and-dot motifs.<sup>186</sup> Combs decorated solely with ring-and-dot motifs and

<sup>156</sup> *Bóna – Horváth 2009* Taf. 155, 173; *Bóna 2009* 196. There are very few unornamented pieces among Langobardic combs; one comes from Kajdacs (*Bóna – Horváth 2009* Taf. 27, Gr. 39. 1).

<sup>157</sup> Kápolnásnyék-Kastélykert, Grave 3 (*Bóna – Horváth 2009* Taf. 30, Gr. 3. 5).

<sup>158</sup> Gyöng-Vásártér, Grave 4 (*Bóna – Horváth 2009* Taf. 2, Gr. 4. 1).

<sup>159</sup> *Bóna – Horváth 2009* Taf. 49, Gr. 54. 9; Taf. 52, Gr. 68. 7; Taf. 53, Gr. 71. 2; Taf. 57, Gr. 85. 1.

<sup>160</sup> *Bóna – Horváth 2009* Taf. 62, Gr. 13. 1 and Gr. 16. 1; Taf. 64, Gr. 20. 3; Taf. 65, Gr. 19. 3; Taf. 66, Gr. 24. 4; Taf. 70, Gr. 40. 4; Taf. 73, Gr. 35. 2; Taf. 76, Gr. 53. 2; Taf. 79, Gr. 52. 1.

<sup>161</sup> Poysdorf, Grave 6 (*GHA 1987* 566).

<sup>162</sup> *Tejral 2011* 65, Abb. 27. 21.

<sup>163</sup> *Stuchlík 2011* Taf. 1, 6/VII. 1; Taf. 2, 9/IV. 4; Taf. 4, 13/X. 9; Taf. 7, 27/XXII. 4 (with a ring-and-dot ornamented case).

<sup>164</sup> *Čížmař 2011* Taf. 8, Gr. 7. 10; Taf. 15, Gr. 46. 3; Taf. 17, Gr. 56. 2.

<sup>165</sup> *Klanica – Klanicová 2011* Taf. 57, Gr. 61. 4; Taf. 63, Gr. 71. 1; Taf. 64, Gr. 83. 1.

<sup>166</sup> Kajdacs-Homokbánya, Grave 23 (*Bóna – Horváth 2009* Taf. 24, Gr. 23. 9).

<sup>167</sup> *Bóna – Horváth 2009* Taf. 41, Gr. 29. 8; Taf. 42, Gr. 33. 14; *Bóna 2009* 196, too highlights these two combs. Grave 33 is an expressly late burial (*Tejral 2011* 54).

<sup>168</sup> *Bóna – Horváth 2009* Taf. 38, Gr. 15. 1; Taf. 43, Gr. 30. 13; Taf. 44, Gr. 34. 2; Taf. 50, Gr. 56. 4; Taf. 51, Gr. 61. 2.

<sup>169</sup> *Bóna – Horváth 2009* Taf. 65, Gr. 23. 13.

<sup>170</sup> *Bóna – Horváth 2009* Taf. 72, Gr. 31. 3; Taf. 78, Gr. 50. 10.

<sup>171</sup> *Stuchlík 2011* Taf. 6, 27/XX. 7.

<sup>172</sup> *Čížmař 2011* 146, Taf. 11, Gr. 29. 2; Taf. 20, Gr. 79. 3.

<sup>173</sup> *Klanica – Klanicová 2011* Taf. 33, Gr. 9. 2; Taf. 53, Gr. 54. 10; Taf. 65, Gr. 75. 4; Taf. 72, Gr. 94. 4.

<sup>174</sup> *Tejral 1982* 97, Abb. 31. 1 and Taf. XXII. 1.

<sup>175</sup> *Tejral 1982* Taf. XXVI. 1.

<sup>176</sup> *Bóna – Horváth 2009* Taf. 32, Gr. 2. 2; Taf. 36, Gr. 20. 8.

<sup>177</sup> *Bóna – Horváth 2009* Taf. 60, Gr. 7. 8.

<sup>178</sup> *Bóna – Horváth 2009* Taf. 37, Gr. 8. 2; Taf. 39, Gr. 16. 3; Taf. 56, Gr. 84. 1.

<sup>179</sup> *Bóna – Horváth 2009*, Taf. 71, Gr. 30. 2.

<sup>180</sup> *GHA 1987* 378, with the earlier literature.

<sup>181</sup> *Čížmař 2011* 146; Taf. 18, Gr. 60. 3, 7; Taf. 25, Gr. 98. 2 and 100. 10; Taf. 26, Gr. 104. 10.

<sup>182</sup> *Škojec 2000* Abb. 5. 3.

<sup>183</sup> *GHA 1987* 570; *Klanica – Klanicová 2011* Taf. 29, Gr. 6. 2; Taf. 48, Gr. 46. 15; Taf. 56, Gr. 57. 14; Taf. 81, Gr. 112. 5.

<sup>184</sup> *Neugebauer 2005* Abb. 2; *Blesl 2012* 46, Abb. 75.

<sup>185</sup> The known pieces are reviewed by *Stuchlík 2011* 91–92. For the two comb cases with incised ornamentation, see *Čížmař 2011* 147.

<sup>186</sup> *Cseh 2005b* Taf. 42, 160. 1.

lacking an incised design are quite rare in the western material.<sup>187</sup> Similarly to *Cat. no. 6*, the comb probably originates from the west.

Similarly to the double-sided combs, the majority of single-sided antler combs from Gepidic cemeteries are decorated with incised patterns. Although this decoration does not occur among the short combs from Rákóczifalva, the distribution of the type is amply illustrated by the following decorative schemes, among which bundles of vertical lines,<sup>188</sup> saltire cross motifs combined with vertical lines<sup>189</sup> and diagonal bundles of lines can be distinguished.<sup>190</sup> Single-sided short combs include pieces with uncertain decoration<sup>191</sup> and plain ones.<sup>192</sup> At Szőreg, various types of single-sided combs were recovered from burials dating from the earlier sixth century,<sup>193</sup> although Grave 9, a male burial with a weapon, can be assigned to the later fifth century.<sup>194</sup> The burial of the man interred with a *spatha* lay in the cemetery's central grave group and represents one of the earliest burials.<sup>195</sup> The lower chronological boundary of the type is provided by its deposition in this grave.

Both variants of Gepidic single-sided short combs are important indications of the cultural contacts of the material of the Hungarian Plain. Although *Cat. no. 15* has few parallels, it nonetheless fits in nicely with the assemblages from the Hungarian Plain. While a date in the later fifth century is feasible, neither can a date in the earlier sixth century be excluded. *Cat. no. 6* represents a singular piece in the Gepidic material and together with the ring-and-dot ornamented comb from nearby Kastélydomb, it is an intrusive piece reflecting the western taste. In the light of the Moravian and Pannonian Langobardic parallels, this comb can be assigned to the turn of the fifth and sixth centuries at the earliest, although a date in the earlier sixth century seems more likely.

#### *Single-sided curved-backed combs*

This form was not previously distinguished in the Gepidic material. *Cat. no. 7* differs from the triangular-backed comb and the other single-sided Gepidic combs in that the back and the curved lower side both have a slight break and the sides of the narrow side plates are parallel (*fig. 7. 4*). The single comparable piece comes from the Szőreg cemetery.<sup>196</sup>

The comb from Grave 43 of Szőreg is decorated with a double stab-and-drag wavy line. The comb fragment from Rákóczifalva is plain, but it may have been the back plate of a decorated comb. Given that both exemplars are fragmentary, the form of the edges remains unknown. The burials around Grave 43 of Szőreg can be dated to the earlier sixth century.<sup>197</sup> The feature yielding the comb fragment at Rákóczifalva also contained stamped pottery. Thus, both combs can be assigned to the sixth century. There seems to be no direct contact

<sup>187</sup> Holubice, Grave 62 (*Čižmař 2011* 146, Taf. 19, Gr. 62. 1).

<sup>188</sup> Szentés-Berekhát, Grave 226 (*Csallány 1961* Taf. XCVIII. 17); Kiszombor, Grave 62 (*ibid.* Taf. CXXXIII. 8; CCLXII. 8).

<sup>189</sup> Szentés-Berekhát, Grave 275 (*Csallány 1961* Taf. LXXX. 9; CCLXII. 4), Grave 183 (*ibid.* Taf. LXXXI. 5; CCLXII. 3), and Kiszombor, Grave 115 (*ibid.* Taf. CXXXIII. 8; CCLXII. 8). A variant with stylised animal heads is known from Kiszombor, Grave 55 (*ibid.* Taf. CXXIV. 18; CCLXIII. 5, also published in *Gepidák 1999* Cat. no. 201).

<sup>190</sup> Magyarcsanak-Bökény, Grave 38 (*Nagy 2005b* Taf. 25, Gr. 38. 1).

<sup>191</sup> Kiszombor, Grave 48 (*Csallány 1961* Taf. CXII. 17); Kiszombor, Grave 39 (*ibid.* Taf. CXV. 1).

<sup>192</sup> Szolnok-Szanda, Graves 68 and 153 (*Bóna 2002c* Taf. 37, Gr. 68. 1; Taf. 47, Gr. 153. 1). The length and type of the comb from Grave 155 is uncertain; it is undecorated. *ibid.* Taf. 48; Taf. 155. 3.

<sup>193</sup> *Nagy 2005* 145; Abb. 13, Graves 27, 35 and 43; Abb. 49.

<sup>194</sup> *Csallány 1961* Taf. CLXIII. 2; *Nagy 2005* Abb. 13. 9; Taf. 48, Gr. 9. 1. Peaked-backed, the front plate decorated with an incised and stab-and-drag pattern, perhaps also with animal heads (*ibid.* 145). For its date, see *ibid.* Abb. 49; for a discussion of the shield-on-tongue buckle, see *ibid.* 154–156, Abb. 18, Type 9.

<sup>195</sup> *Nagy 2005* 197.

<sup>196</sup> Szőreg-Téglagyár, Grave 43 (*Nagy 2005* Abb. 13. 43; Taf. 53, Gr. 43. 1). The comb was the single grave good in this burial (identical with *Csallány 1961* Taf. CLXXIV. 25, an inaccurate drawing that shows the comb as being a plain piece).

<sup>197</sup> *Nagy 2005* Abb. 49.

with the strongly curved-backed single-sided combs of the western Merovingian region since the majority of the latter can be assigned to the seventh century.

*The origins of early single-sided Merovingian combs*

The origins of the single-sided combs of the Gepidic period cannot be divorced either from the comb types of the Imperial period, or from developments in the west. In western scholarship, the appearance of single-sided long combs in Merovingian cemeteries was ascribed to Langobardic influence.<sup>198</sup> It has also been suggested that the Langobardic single-sided curved-backed combs were the models of medieval combs.<sup>199</sup> In the light of the above, the impact of the Transdanubian combs on the single-sided combs of the Gepids can be fairly accurately traced and it seems likely that the sixth-century material contains pieces produced in the west.

Moreover, it would appear that single-sided Gepidic combs evolved as a result of local development. The nature of the problem is best illustrated by the fact that single-sided short combs with stab-and-drag decoration are also known from Sarmatian contexts on the Hungarian Plain, from Nyíregyháza and Hosszúpályi.<sup>200</sup> The form of the Nyíregyháza comb bears a greater resemblance to the Gepidic-period combs than to the triangular-backed pieces of the Roman period, and its decoration too has good counterparts in the Gepidic material.<sup>201</sup> If the dating of the Nyíregyháza comb to the Sarmatian period is accurate, it represents the earliest comb of this type and can also be regarded as the forerunner of the Gepidic pieces.

Similarly to the Nyíregyháza comb, most of the exemplars from Rákóczi-falva have slightly peaked-backed side plates, a trait generally typical for Gepidic combs. In contrast, the Langobardic combs from Pannonia have regular curved-backed side plates (combs with oval-backed side plates),<sup>202</sup> suggesting that the Gepidic variant can be derived from the triangular-backed combs. A transitional form between single-sided triangular-backed and curved-backed combs is represented by a Gepidic-period comb from Szentes, whose longish proportions, low-backed side plates and medium size can be regarded as the precursor to both the short and the long variety of Gepidic-period single-sided combs.<sup>203</sup> A Gepidic comb from Klárafalva has narrow side plates and somewhat unusual proportions.<sup>204</sup> In the light of the above, the Sarmatian forerunners, the triangular-backed combs from Rákóczi-falva and Kisvárda-Darusziget, and the cited Gepidic transitional forms all represent a link towards the single-sided Gepidic combs.

Most of the single-sided Gepidic combs, both long and short, are decorated with incised or stab-and-drag patterns, a technique that was not current in Transdanubia, while its precursors are attested on the single-sided combs of the late Imperial period on the Hungarian Plain. This, in itself, does not exclude the western origin of the form. Still, it remains a fact that the use of single-sided short combs predates the appearance of the Langobards in the “neighbourhood” and that they are attested well before the latter’s combs could have had an impact on their eastern neighbours.

<sup>198</sup> *Christlein 1966* 81; *Koch 1967* 74–75; *Martin 1976* 102–103.

<sup>199</sup> *Biró 2000b* 167.

<sup>200</sup> *Pintye 2009* 182, Type VII. The comb from Hosszúpályi is unpublished.

<sup>201</sup> Nyíregyháza-Császárszállás, Site M3 137, Feature 1331 (*Pintye 2009* 182, Type VII, fig. 15. 5). The context was not specified.

<sup>202</sup> The type is designated as curved-backed in the Merovingian regions; I use the labels “oval-backed” and “peaked-backed” to clearly distinguish them from the curved-backed and triangular-backed combs of the Imperial period. This is the most widespread variant in the Merovingian cemeteries; a straight-backed variant has also been attested in addition to the peaked-backed form.

<sup>203</sup> Szentes-Gyógyszertár, Grave 7 (*Nagy 2005* 118, Taf. 36, 7. 1; 91, 1. a-b). The side plate does not extend to the end plate with inward-curving edge, and the front plate bears a unique motif, an incised star. It was found together with a shield-on-tongue buckle and a knife sheath with silver mounts. The other finds of the small cemetery section point towards an early, fifth-century date (*ibid.* 118–119).

<sup>204</sup> Klárafalva, Grave 8 (*Csallány 1961* Taf. CLVIII. 5).

Another potential ancestry could be sought in southern Pannonia. Although single-sided combs abound in Viminacium,<sup>205</sup> the typo-chronology of the Viminacium cemeteries indicates that their use began in the local C2 phase, from the second decade of the sixth century onward.<sup>206</sup> The find with the best dating value from Grave 103 was a pair of tweezers, for which a similar find from Grave 82 of Kishomok is cited as the closest analogy, which can be assigned to the turn of the fifth–sixth centuries.<sup>207</sup> An early date for the comb is suggested also by the peaked back of its side plates, a less common form in Viminacium, which recalls the pieces of the Imperial period. The finds from Grave 121, a weapon burial, and Grave 2083, a female burial, indicate that they are later burials from well in the sixth century.<sup>208</sup> This type is much less frequent in this region than double-sided combs.<sup>209</sup> The single-sided combs from Viminacium are 10.5–16 cm long. The two longest exemplars with a length of 15.3 cm and 16 cm, respectively, can be assigned to the earlier and the middle third of the sixth century.<sup>210</sup>

Thus, single-sided combs do not appear earlier in Pannonia Secunda than on the Hungarian Plain. The appearance of Gepidic long combs probably represents a later phase in the typological sequence. These are first encountered on the Hungarian Plain around the turn of the fifth and sixth centuries. We may therefore assume that the Gepids' single-sided combs evolved from the single-sided pieces of the Imperial period, by simplifying the arched-backed or triangular-backed combs. This is also supported by a technological trait, discussed in more detail below, namely that Gepidic boneworking was not as advanced as to master the differentiated tothing of the combs with the same quality of craftsmanship as was general even in the early medieval period in Roman territories. There was therefore no genuine need for combs with two sides.

An opposite development involving the emergence of new single-sided comb types from their Sarmatian predecessors without impacts from Roman territories, followed by their westward spread seems most unlikely. A parallel development and the spread of a like fashion seems more feasible, and currently this appears to have been the case. This would imply the continued use of single-sided combs after the Roman period since – similarly to other barbarian and Roman regions – their earlier types were already current on the Hungarian Plain.

The above contention is also supported by other research findings. Regarding the origins of single-sided combs, it is now believed that instead of a Langobardic origin, the type evolved at roughly the same time over an extensive territory.<sup>211</sup> Berthold Schmidt had outlined a possible developmental sequence for central Germany as early as 1961: he derived the single-sided curved-backed and the later straight-backed combs from the arched- and triangular-backed combs that gradually became lower. He dated this process to the later fifth and earlier sixth century.<sup>212</sup> Close parallels to *Cat. no. 15* and the ring-and-dot ornamented comb from Kastélydomb have been published from Saxony and Berlin.<sup>213</sup>

A parallel process can be noted in the Langobardic cemeteries of Bohemia.<sup>214</sup> A low curved-backed, relatively long single-sided comb, probably decorated, was recovered from the Beroun-Závodí burial, which Jaroslav Tejral dated to the D1 period.<sup>215</sup> The comb is

<sup>205</sup> *Ivanišević – Kazanski – Mastykova 2006* 36, and figs 19–20.

<sup>206</sup> *Ivanišević – Kazanski – Mastykova 2006* 122. On the evidence of the combs from Bohemia and Moravia, they are broadly dated from the earlier fifth century, from the D2 period (*ibid.* 36).

<sup>207</sup> *Ivanišević – Kazanski – Mastykova 2006* Pl. 11, 103. 2, and *ibid.* 35; *Bóna – Nagy 2002b* 150, Abb. 75.

<sup>208</sup> For the typology of the grave goods, see *ibid.* 33 (ornamental pin) and 42 (umbo).

<sup>209</sup> Kormadin-Jakovo, Grave 2 (*Dimitrijević 1960* Pl. 3. 20; *Dimitrijević 1964* Y57. 1). The ring-and-dot motifs on the end plates of the peaked-backed comb point towards the Langobardic tradition.

<sup>210</sup> *Ivanišević – Kazanski – Mastykova 2006* Pl. 18, 121. 6 (Viminacium II); Pl. 25, 141. 6 (Viminacium II), for the late belt set, see *ibid.* 24.

<sup>211</sup> *Grünwald 1988* 123–124.

<sup>212</sup> *Schmidt 1961* 141–144.

<sup>213</sup> *Schmidt 1961* Taf. 58–59 (Rathewitz, the burials were dated between 480–525); *von Müller 1962* 155–156, Abb. 3. d (Berlin-Britz, dated to the earlier sixth century).

<sup>214</sup> As noted by Schmidt and, after him, *Svoboda 1965* 352, citing several examples. In the following, I shall only discuss more recently found pieces.

<sup>215</sup> *Tejral 2011* Abb. 70. 13; 111.



clearly a forerunner of the later Germanic-period types. The single-sided comb with incised decoration from the Straß burial can be assigned to the early Langobard phase.<sup>216</sup> One of the early burials of the Borotice cemetery yielded a double-sided comb adorned with ring-and-dot motifs, another contained a single-sided straight-backed comb with ring-and-dot motifs and an incised design.<sup>217</sup> The Holubice burial ground also yielded transitional forms: short combs with an angular break on the back or with a more-or-less triangular form to the side plates. While the possible origin of these combs is not discussed, the graves themselves are assigned to the earliest burials in the cemetery in view of their horizontal stratigraphic position (470/80–510/520).<sup>218</sup> The single-sided comb from Grave 44 has slightly curved side plates decorated with double ring-and-dot motifs.<sup>219</sup> While comparable pieces are not known from the Gepidic territory, the comb represents a transition between the single-sided pieces of the Imperial period and the long combs of the Langobards, and it also attests to the continuous use of the ring-and-dot motif. The side plates of the comb from Grave 105 have a gently peaked form.<sup>220</sup> This form too suggests a developmental sequence that ran parallel to the one in the Gepidic territory, while in terms of its form, it is a good parallel to the short comb from Grave 15 of Rákóczifalva. The latter compares well with a comb from Šaratice, which can similarly be assigned to the low triangular-backed type.<sup>221</sup> A similar comb comes from Otnice.<sup>222</sup> A comb from Sokolnice has slightly higher side plates and end plates with slightly outcurving edges.<sup>223</sup> The single-sided low-backed comb from Grave 2 of Mochov was previously dated to the earlier sixth century, but is now generally assigned to the turn of the fifth and sixth centuries or the early decades of the sixth century following Jaroslav Tejral.<sup>224</sup>

Several combs resembling the Langobardic exemplars from Bohemia and *Cat. no. 15* of Rákóczifalva are known from the Merovingian territory, for example from Basel. The grave was dated to around 540/550 by Max Martin, who regarded the unique comb of the Bernerring cemetery as having an eastern ancestry.<sup>225</sup> A similar single-sided short comb was found in the Bonaduz burial ground in Raetia, likewise representing an unparalleled piece among the finds, to which Italian Langobardic parallels were cited.<sup>226</sup> These isolated finds highlight the implications of the tendency that a formal development resembling the one outlined in the above cannot be noted south and west of Thuringia, Saxony, Bohemia and the Gepidic territory.

While a rich variety of forms resembling the eastern pieces can be found in the Bavarian Danube region and the eastern Alemannic territory, these are generally dated from the mid-sixth century onward or to after 530 at the earliest.<sup>227</sup> Only the variants adorned with animal

<sup>216</sup> *Tejral 2011* 65, Abb. 27. 21 and 66.

<sup>217</sup> *Stuchlík 2011* Taf. 6. 27/XXVI. 2; 27/XX. 7, and *ibid.* 93, for the date of the burials.

<sup>218</sup> *Čížmař 2011* 147, 151.

<sup>219</sup> *Čížmař 2011* Taf. 15, Gr. 44. 1. L. 12.5 cm.

<sup>220</sup> *Čížmař 2011* Taf. 28, Gr. 105. 1. The undecorated comb is fragmentary and has a length of 8.5 cm. The Borotice combs are 14.5–15.5 cm long, with the exception of an exemplar with a length of 21 cm (*Stuchlík 2011* 91), and similar sizes were recorded at Holubice (up to 15 cm and over 20 cm, *Čížmař 2011* 146).

<sup>221</sup> *Tejral 1982* Taf. XX. 3. The comb is decorated with ring-and-dot motifs, while the two edges bear an incised pattern.

<sup>222</sup> *Tejral 1982* 211–212, Abb. 89. 2 and Taf. XXVI. 6. The comb is decorated with incised parallel lines, L. 10.2 cm.

<sup>223</sup> *Tejral 1982* 143, Abb. 51. 7 and 216, Abb. 94. 1. This comb is plain, L. 11.6 cm. Although the latter parallels cannot be more closely dated, they represent a transition towards later types in terms of their form.

<sup>224</sup> *Thomas 1960* 102 and Abb. 50; *Svoboda 1965* 353; *B. Tóth 1999b* 266; *Tejral 2011* 38–41, 64–66. For the cicada-decorated Thuringian brooch, see *ibid.* 40, Abb. 13. 6. *Jiřík 2007* 137, too writes of Thuringian impacts in the cemetery. The comb is a good parallel to *Cat. no. 19*, a triangular-backed comb.

<sup>225</sup> *Martin 1976* 215, Grave 5. 10, and 102–103. The comb has a low, peaked side plate and a simple incised ornamentation, L. 12.7 cm. It was found together with a spatha, a pair of scales and a shield-on-tongue buckle.

<sup>226</sup> *Schneider-Schenkenburger 1980* Taf. 4. 3 and 62. 2. The comb from Grave 80 of Bonaduz too has a low, peaked-backed plate and an incised ornamentation.

<sup>227</sup> *Dannheimer 1962* 103–104; *Koch 1968* 101–102; *Koch 1977* 91–92; *Koch 2001* 188, Abb. 15 and 23. The fourth–fifth-century low triangular-backed combs of Baden-Württemberg all have curved end plates and are thus assigned to another western form group, cp. *Schach-Döriges 1994* 683–686.

heads of the Langobardic single-sided long combs are used in the Rhine region during the sixth–seventh centuries. Single-sided combs occur but sporadically in the seventh century; a more widespread distribution can only be noted from the end of the century and in the early eighth century.<sup>228</sup> They are also only encountered in greater number in the Bavarian cemeteries of Austria in the seventh–eighth centuries, although double-sided combs continue to dominate.<sup>229</sup> In Italy, single-sided combs first appear in the Langobardic cemeteries, while double-sided combs remain typical for the burials of the Romanised population.<sup>230</sup> The single-sided combs in the Säben cemetery were regarded as having been adopted from the Bavarians or the Langobards.<sup>231</sup> Finally, the Viking Age combs in Scandinavia, on the North Sea coast and in England were probably the products of a similar parallel development. Similarly to the development in the barbarian lands of Central Europe, these too evolved from the local Late Iron Age and Imperial-period single-sided comb varieties.<sup>232</sup>

The possible connection between Gepidic and Langobardic single-sided combs remains open. The reason for the uncertainties is that little attention was devoted to this subject because in the Merovingian lands, the form was regarded as originating from the east (from the Thuringians and the Langobards), while a western (also Langobardic) origin was ascribed to the type found in Gepidic contexts, although without a closer look at the dating of the Gepidic material. The current evidence would suggest that the new “Langobardic” comb type appearing in the second half or last third of the fifth century north-west of the Gepidic kingdom reached Pannonia in its fully developed form in the sixth century.<sup>233</sup> In the lack of transitional forms in Pannonia, a direct geographic link and, by implication, a direct Langobardic impact is lacking, and thus Gepidic single-sided combs can be regarded as the products of a general Central European development.

*The missing link: the distribution of bell-shaped and lobed-backed combs of the so-called Marosszentanna–Chernyakhov type*

Bell-shaped and lobed-backed three- and five-layer combs<sup>234</sup> are almost entirely lacking from among the find assemblages of the Hungarian Plain<sup>235</sup> and thus the finds of the Marosszentanna–Chernyakhov culture found beyond its distribution east of the Danube warrant special scholarly attention. The paradox is best illustrated by the fact that these combs were widely distributed in Pannonia and that their local production is indicated not only by workshop finds, but also by the presence of regional ornamental motifs.<sup>236</sup> The type is attested farther to the west in provincial and other barbarian territories.

Several concentrations can be identified on imperial territory, all of which are located directly along the *limes* (in the Middle Rhine and the Moselle regions, in Raetia, between Carnuntum and Intercisa, and from Singidunum to the Iron Gates region).<sup>237</sup> Nevertheless, this comb type rarely reached the western provinces: within in the Roman Empire, only in

<sup>228</sup> Christlein 1966 81; Grünwald 1988 123, 172; Blaich 2006 157–159.

<sup>229</sup> Deringer 1967a (Rudelsdorf, the seventh–eighth-century combs from the cemetery and the stray finds from Linz-Zizlau).

<sup>230</sup> von Hessen 1971 37; Riemer 2000 204–205.

<sup>231</sup> Bierbrauer – Nothdurfter 2015 426.

<sup>232</sup> Ambrosiani 1981 19–22, 32–36, fig. 6, fig. 11. 1.

<sup>233</sup> Schmindt dated the combs bearing a formal resemblance to the Pannonian Langobardic combs and the pieces with ring-and-dot decoration from Saxony from around 525 (Schmidt 1961 Abb. 56, 9–10 and Taf. 82–83, Obernmöllern, Graves 15 and 27).

<sup>234</sup> Bíró 1994 39; Bíró 2002 49–56; Ottományi 2001 50–55; Ottományi 2008b 238–242; Ottományi 2008a 153; Šovan 2005 156, Types 3f and 4; Pintye 2009 176–177; Tejral 2011 227–228.

<sup>235</sup> Pintye 2011 74; Stanciu 2011 35.

<sup>236</sup> Bíró 2002 59; Ottományi 2008b 238–242.

<sup>237</sup> Böhme 2008 364–369, Abb. 2, and 365–368; Petković 1995 Karta 5; Petković 2006; cp. also the more recently found composite combs from Páty (Ottományi 2001 fig. 7. b; Tejral 2011 Abb. 110. 11) and Budakalász (Ottományi 2008b Abb. 5. 3; Tejral 2011 Abb. 197).

Pannonia were triangular-backed combs that were principally distributed in the west and lobed-backed combs of eastern origin used in roughly the same proportion.<sup>238</sup> As regards the Barbaricum, these combs are attested in Lower Austria,<sup>239</sup> Bohemia and Slovakia,<sup>240</sup> as well as in the Elbe-Saale region, Bavaria and the Przeworsk distribution.<sup>241</sup> A handful have been found as far as Brandenburg and even Masuria.<sup>242</sup> On the testimony of workshop finds from the Zlechov settlement in Moravia, lobed-backed combs were also produced locally.<sup>243</sup> The distribution of the comb type west of the Marosszentanna–Chernyakhov territory is generally dated to the D1 period in Europe.<sup>244</sup>

The typologically earliest variant has bell-shaped side plates and is extremely rare east of the Danube and in the Barbaricum west of the Marosszentanna–Chernyakhov distribution.<sup>245</sup> The single piece found on the Hungarian Plain comes from the Hun-period burial uncovered at Tiszalök-Rázom.<sup>246</sup> It also appears among the finds of the Imperial-period Germanic settlement at Ózd, where its local production can be demonstrated<sup>247</sup> and a fragment suggests its presence at Prešov (Eperjes, Slovakia).<sup>248</sup>

The lobed-backed variant has been published from Streda nad Bodrogom (Bodrogszerdahely, Slovakia)<sup>249</sup> and Bocșa (Oláhbaksa) in the Sălaj (Szilágyság, Romania) region,<sup>250</sup> and it has also been attested at Biharugra on the eastern fringes of the Sarmatian territory. The Sarmatian comb from Biharugra represents a transition to the next, so-called five-layered type since one side has a single plate, while the other side consists of a separate side-plate and semicircular plate.<sup>251</sup>

It has been shown that lobed-backed composite combs of the so-called Marosszentanna–Chernyakhov type represent a specifically Pannonian type.<sup>252</sup> However, it must be borne in mind that these may have appeared in small numbers in the Marosszentanna–Chernyakhov cemeteries of Romania and Moldavia too.<sup>253</sup> A handful are known from the central region of the Hungarian Plain: one unique find is the comb recovered from a south-east to north-

<sup>238</sup> *Bíró 2000a* 86; *Bíró 2000b* 172.

<sup>239</sup> Mistelbach, found together with polyhedral earrings (*Pollak 1980* Taf. 70. 12), Oberleis (*ibid.* Taf. 81. 7–18), Michelstetten (*Tejral 2011* Abb. 2. 19) and Grafenwörth (*Tejral 2011* Abb. 89. 3–4 and Abb. 173). The best parallels to the rosette-ornamented comb from Grafenwörth come from provincial sites such as Mautern (*Pollak 1993* 106–107, Taf. 40. 4).

<sup>240</sup> Bratislava-Devin (*Tejral 2011* Abb. 304. 2), Drslavice (*ibid.* Abb. 80. 1) and Modrá (*ibid.* Abb. 81. 1).

<sup>241</sup> *Schmidt 1961* 141–142, Abb. 56. 2; *Dannheimer 1962* 38; *Böhme 2008* 368; *Loskotová 2011* 111–112.

<sup>242</sup> Composite Marosszentanna–Chernyakhov types (*von Müller 1962* Abb. 25. d) and a bell-shaped exemplar with ring-and-dot ornamentation (*Nowakowski 1998* 87, Abb. 30).

<sup>243</sup> *Zeman 2007* 296, Abb. 10; *Tejral 2011* Abb. 82. Judging from the workshop finds and the finished products (*Zeman 2007* Abb. 14, 13–14), it seems likely that simpler types with side plates were manufactured. For the radiocarbon dating of the finds, see *Stadler et al. 2008* 159 and Abb. 9.

<sup>244</sup> *Böhme 2008* 365. *Loskotová 2011* 112, is sceptical regarding a more detailed periodisation within the C3/D period; *Petković 1995* tabela 13b, dates certain sub-types from the early fourth century onward based on Chernyakhov analogies.

<sup>245</sup> The typological assignation of the Nyíregyháza fragment, assigned to Type III by *Pintye 2009* 176, is uncertain, while the Biharugra comb can be assigned to another sub-type (see below).

<sup>246</sup> The curved-backed comb with ring-and-dot ornamentation comes from a solitary (?) burial, which also yielded a spouted jug, a shield boss and a spear, see *Párducz 1959* 330, Cat. no. 40, Taf. XXIII. 3–3a. For the grave, cp. also *Istvánovits – Kulcsár 1992* 63, Cat. no. 44; *Szabó 2000*.

<sup>247</sup> *Párducz – Korek 1958* 34, Pl. VIII. 6 (ring-and-dot ornamentation) and 7 (semi-finished product).

<sup>248</sup> *Lamiová-Schmiedlová 1964* obr. 2. 4. Unornamented, plain.

<sup>249</sup> *Lamiová-Schmiedlová 1964* obr. 2. 1. However, the lobe is more angular than rounded; unornamented.

<sup>250</sup> *Stanciu 2011* Pl. 3. 5. For the region in the Roman period, see *Gindele 2010* 114–116.

<sup>251</sup> *Medgyesi 2011* 80–81, fig. 8, according to whom the comb's composite side plate was a later replacement. However, this seems unlikely in view of its technical traits. A Pannonian comb from Biatorbágy was made with the same technique (*Ottományi 2008a* 153, fig. 12. 5–6).

<sup>252</sup> *Ottományi 2008b* 241.

<sup>253</sup> In Mihălășeni, they lay by the cemetery's edge (*Șovan 2005* 156, Type 4, Pl. 306. 9); Bârlad-Valea Seaca, Graves 494 and 501 (*Palade 2004* fig. 261. 5; 265. 8, for the latter, see also *Tejral 2011* Abb. 14. 4).

west oriented burial uncovered at Szeged-Kundomb.<sup>254</sup> The type has also been attested at Kiskundorozsma<sup>255</sup> and on the northern and eastern fringes of the Sarmatian Barbaricum, as evidenced by the finds from Füzesabony,<sup>256</sup> Szihalom,<sup>257</sup> Tiszakarád,<sup>258</sup> Ibrány,<sup>259</sup> and the Sarmatian settlement at Ghenci-Lutărie (Gencs-Agyagbánya, Romania),<sup>260</sup> while towards the north, combs of this type have been reported from various sites on Germanic territory: Szurdokpüspöki,<sup>261</sup> Čaňa (Csány, Slovakia),<sup>262</sup> Prešov (Eperjes, Slovakia)<sup>263</sup> and Vyšný Kubín (Felsőkubín, Slovakia),<sup>264</sup> and Vrbov (Ménhárd, Slovakia)<sup>265</sup> in the Carpathians.

One of the combs from Ártánd-Nagyfarkasdomb must be mentioned here, which has a similar form, but angular shoulders under the lobed projection.<sup>266</sup> This variant appears in the Marosszentanna–Chernyakhov culture too, and similar pieces have also been found in the Elbe region<sup>267</sup> and Moesia.<sup>268</sup> Its proportions recall the forms of the Roman period. The single-sided long comb found in the Hajdúszoboszló weapon burial diverged from the “prototype” to a greater extent and can be dated to the earlier sixth century at the latest.<sup>269</sup>

We should also recall the fragmentary comb from the Hun-period burial of Tarnaméra-Urak dűlője, which in István Bóna’s view was a round-backed comb, although it could equally well have been a triangular-backed one.<sup>270</sup> The straight upper edge of its side plates<sup>271</sup> excludes its classification as a round- or arched-backed type and rather suggests that it can be assigned to the lobed-backed Marosszentanna–Chernyakhov type. At the same time, the outward curving edges of the side plates are more typical of the northern and eastern round-<sup>272</sup> and triangular-backed combs.<sup>273</sup> However, these combs were not used either on the Hungarian Plain or in Pannonia, suggesting that it perhaps represents a hybrid form. One close parallel is a comb decorated with animal protomes from Mautern.<sup>274</sup> Disregarding the animal heads, the craftsmanship of the side plates of the Mautern and Tarnaméra combs is identical, as is their decoration with ring-and-dot motifs enclosed within a linear frame. A single-sided comb from Erdőkövesd has a similarly unusual form with low triangular-backed side plates

<sup>254</sup> *Pintye 2011* 74–75, fig. 3. 7. An exact counterpart to the comb is known from an Intercisa burial (*ibid.* 75). Judging from the schematic drawing, the vessel deposited in the burial (*ibid.* fig. 3. 12) was a product of Imperial-period Sarmatian pottery production and cannot be formally linked to the Gepidic period, although, obviously, it could still have been in use later (see *ibid.* 76).

<sup>255</sup> Kiskundorozsma-Nagyszék III, Site 26/8 (*Pintye 2009* 187, Cat. no. 26, fig. 13. 1).

<sup>256</sup> Füzesabony-Pusztaszikszói gyümölcsös, Pit 2 (*Szabó 1991* fig. 8. 1).

<sup>257</sup> Szihalom-Pamlényi-tábla, Feature 766 (*Pintye 2009* 179, Cat. no. 56, fig. 12. 4).

<sup>258</sup> A plain specimen was found in the cemetery (*Lovász 1986* 12–13, fig. 2; *Tejral 2011* Abb. 2. 20 and Abb. 34. 9).

<sup>259</sup> Ibrány, Espán-tava, Site 7 (*Pintye 2009*, 186, Cat. no. 20, fig. 12. 2).

<sup>260</sup> *Németi – Gindele 1997* Pl. VI. 4; *Gindele 2010* Abb. 50. 1; 67. 4; *Pintye 2009* Cat. no. 14, fig. 12. 3; *Stanciu 2011* Pl. 3. 4.

<sup>261</sup> *Szabó – Vaday 2011* 35, Pl. 7. 1.

<sup>262</sup> A ring-and-dot ornamented comb from a grave with a plate brooch (*Lamiová-Schmiedlová 1964* obr. 2. 7; *Bóna 1991* fig. 36, 227; *Tejral 2011* Abb. 232. 8).

<sup>263</sup> Ring-and-dot-ornamented comb (*Lamiová-Schmiedlová 1964* obr. 2. 6).

<sup>264</sup> *Pieta 1987* Abb. 3. 21.

<sup>265</sup> *Pieta 1987* Abb. 3. 25–26.

<sup>266</sup> *Mesterházy 1999* fig. 2.

<sup>267</sup> Stöben, Grave 25; the burial with an S-shaped brooch is dated between 480–525 (*Schmidt 1961* Taf. 53. f).

<sup>268</sup> Bordej, stray find (*Petković 1995* Taf. X. 3, Cat. no. 112).

<sup>269</sup> *Istvánovits – Nepper 2005* Taf. 14. 9. The comb’s intrusive form and ring-and-dot ornamentation hardly indicates a locally made product.

<sup>270</sup> *Bóna – Szabó 2002* 241, Taf. 57. 3. The comb was riveted with bronze rivets, the end plates are curved, and the outermost rivets and the fragments of the side plate (?) suggest that the side plate extended to the edge.

<sup>271</sup> Based on the photo in *Bóna – Szabó 2002* Taf. 110. 3.

<sup>272</sup> E.g. the Osztrópataka comb, see *Prohászka 2006* Taf. 5. 1; cp. *Šovan 2005* Pls 304–305, with the relevant types.

<sup>273</sup> *Böhme 1974* distinguished a Danubian type among the animal-headed triangular-backed combs, characterised by straight-edged, rather than outcurving end plates. Although the new finds indicate that a part of the Pannonian exemplars represent the variant with outcurving triangular side plates, the general tendency remains valid. See the relevant finds in *Bíró 2002* and *Petković 1995*.

<sup>274</sup> *Pollak 1993* Taf. 40. 3. The comb is a stray find without any close parallels (*ibid.* 107).

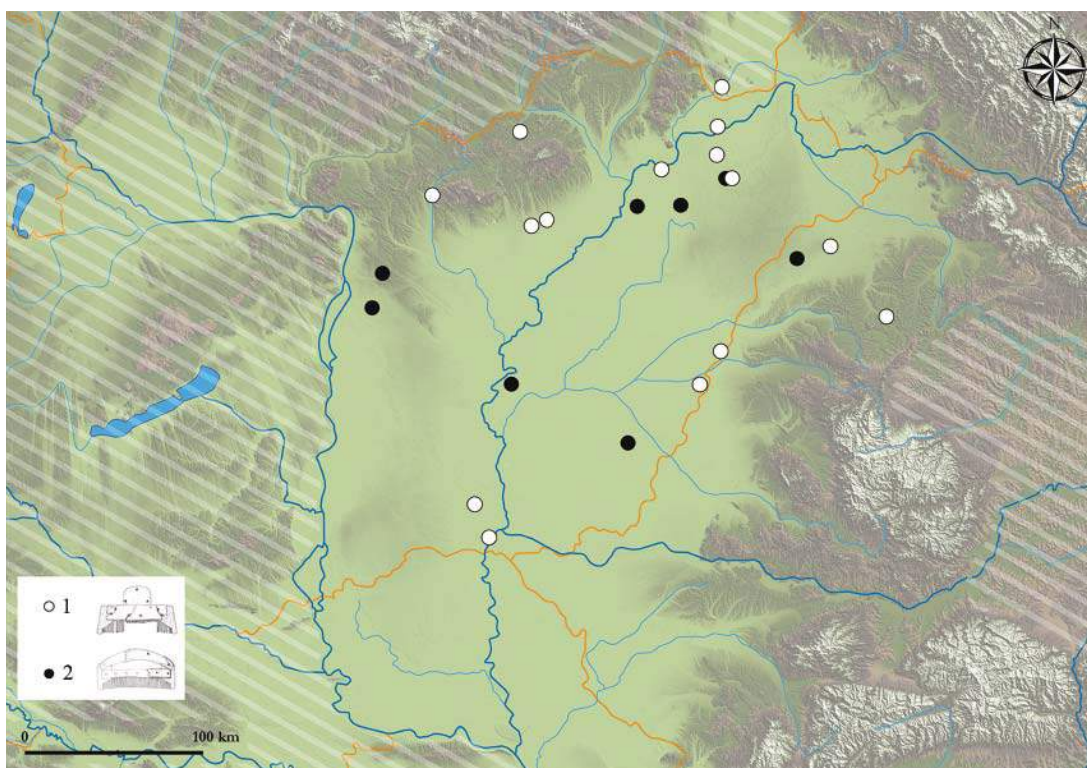


fig. 8. Distribution of bell- and lobed-backed combs of the Marosszentanna–Chernyakhov type (1) and of single-sided round-backed composite combs of the Békéscsaba type (2) in the Sarmatian Barbaricum on the Hungarian Plain and in the neighbouring Imperial-period Germanic borderland up to the mid-fifth century. After *Pintye 2009*, with the new finds. White zones: unmapped (Pannonia, northern Germanic Barbaricum, Marosszentanna culture)

decorated with schematic animal heads. Jaroslav Tejral dated the Erdökövesd burial to the D3 period on the strength of its brooch.<sup>275</sup> Close parallels to the comb have been published from Moesia Superior, where they also represent a rare variant.<sup>276</sup> A blend of different form types is embodied by a comb from Budapest, which can be described as a variant of the lobed-backed combs of the Marosszentanna–Chernyakhov type decorated with animal heads.<sup>277</sup>

In sum, we may conclude that the three variants of this comb type were not distributed in the Sarmatian territory in the sense that they were not typical of the later fifth-century archaeological assemblages either. In contrast, they abound beyond the central regions of the Hungarian Plain: if the finds from the *limes* are also considered, they virtually enclose the Sarmatian territory (*fig. 8*). The fact that the Imperial-period combs in the north originate from settlements enables the further contextualisation of the phenomenon. If the comb type had been used in the central regions of the Hungarian Plain, there should be at least as many pieces as have been recovered from the settlements along the Germanic borderland, especially in view of the high number of investigated Sarmatian settlements and the recent publication of the combs from still unpublished settlement excavations (*fig. 9*).

This comb type does not appear to have been popular on the Hungarian Plain, a contention that is – paradoxically – underpinned by finds of this comb type from Sarmatian contexts on the fringes of the Sarmatian territory. The hybrid forms found along the *limes* and on the

<sup>275</sup> *Csallány 1961* Taf. CCLX. 4; *Tejral 1988* Abb. 34. 1–2; *Tejral 2007* Abb. 21. 4 and 92.

<sup>276</sup> *Castrum Novae* (Čezava), dated between 378–441 (*Petković 1995* 64, Cat. no. 96, T. VIII. 7); *Diana* (Karataš), dated to the last third of the fourth century–earlier fifth century (*ibid.* Cat. no. 97, T. VIII. 8); and a comb with similar proportions from *Kupinovo* (*Bíró 2002* fig. 88).

<sup>277</sup> *Budapest-Budafoki út 78* (*Nagy 2007* figs 15–16. 1; *Tejral 2011* Abb. 108. 1).



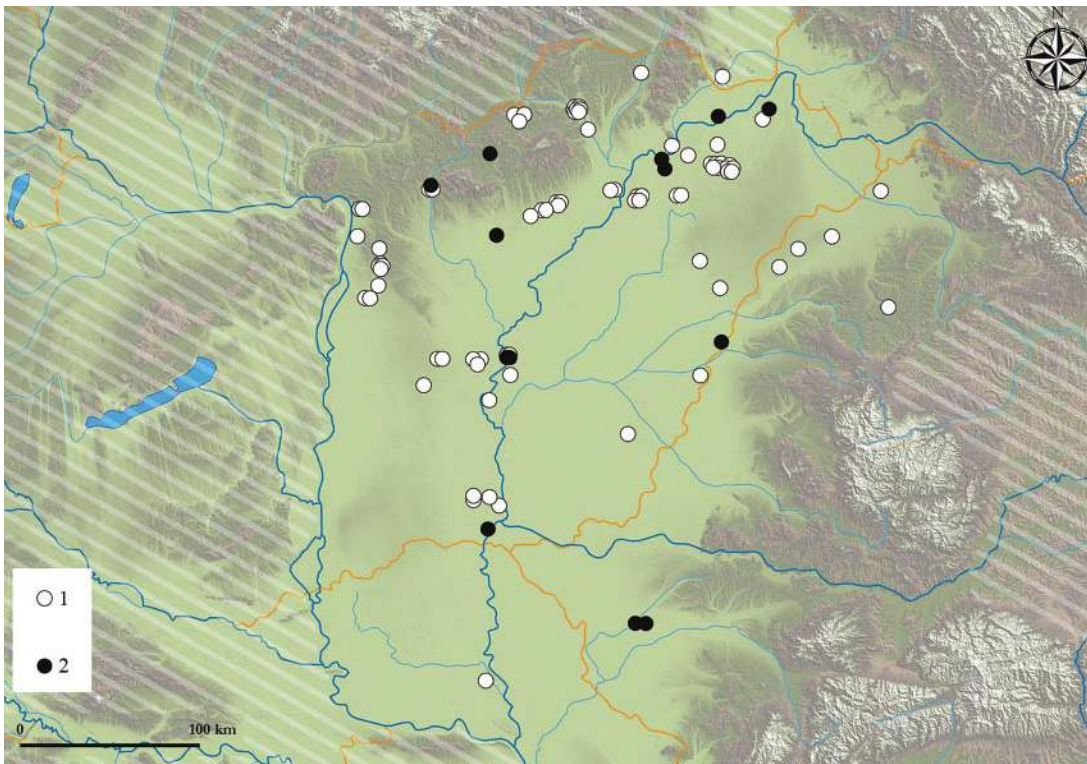


fig. 9. Distribution of antler combs on settlements (1) and in graves (2) in the Sarmatian Barbaricum on the Hungarian Plain and in the neighbouring Imperial-period Germanic borderland up to the mid-fifth century. After *Pintye 2009*, with the new finds. White zones: unmapped (Pannonia, northern Germanic Barbaricum, Maroszentanna culture)

boundary of the Sarmatian and Germanic settlement territory too would suggest this. Their distribution is one of the cultural phenomena ascribed to fresh fourth-century impacts from the east in the regions of the Carpathian Basin lying west of Transylvania, whose presence is more emphatic in the provincial region than on the Hungarian Plain. These combs are not attested during the period characterised by Gepidic row-grave cemeteries.<sup>278</sup>

### *Ornamentation*

There are countless variations in the ornamentation of Migration-period antler combs, which are generally classified according to decorative motifs:<sup>279</sup> however, few studies have attempted to classify decorative schemes according to how they were made. One reason for this might be that most decorative techniques were widely used over extensive areas and that no particular significance was attached to the motifs themselves. The combs from Rákóczifalva does not represent an assemblage of this type. The finds clearly indicate that the combs representing different form types were decorated using different techniques, and they thus provide a more subtle picture of the cultural contacts of the period's craft industry. Thus, in the following I shall also discuss ornamentation in terms of their technique.

<sup>278</sup> A fragment is known from the Bratei settlement (*Bârzu 1995* fig. 17. 1), but the feature from which it was recovered was assigned to the settlement's earlier, fourth–fifth-century occupation (*ibid.* 240–241).

<sup>279</sup> Based on the motif types distinguished by *Thomas 1960*.

### *Incised decoration*

Incised patterns represent the most common ornamentation on combs, no doubt because this decorative technique does not call for the use of specialised tools. The motifs could be incised using a simple knife or a saw.<sup>280</sup> The use of another tool was noted on the Northern European combs that was suitable for creating parallel lines. The examined combs come from sites that are later than the period discussed here (Staraja Ladoga, Hedeby, York): the so-called double saw is also part of the tool-kit used in modern boneworking.<sup>281</sup> Modern comb-makers use the double saw not only for ornamentation, but also for cutting the teeth.<sup>282</sup> Although it seems likely that a tool of this sort was used for the ornamentation of Roman combs too, there were no marks indicating its use on the assemblage from Rákóczifalva.

The use of various simple tools can be identified on the Rákóczifalva combs (*fig. 10*). The narrow, shallow incisions on *Cat. no. 4* were probably made with a knife, while the incisions on *Cat. no. 18* were created with a more sophisticated tool. The technologies have not yet been studied in detail on Central European combs and the publications do not enable the identification of various tools. Only in the case of *Cat. no. 20*, a double-sided comb, can we establish that the incised decoration of narrow deep lines is unique in the Rákóczifalva material. Its best analogy comes from Kiszombor: judging from the published illustrations, this comb is also similar in terms of its technology, suggesting that the two combs represent the same workshop tradition<sup>283</sup> and, also, that a local origin seems unlikely.

The repertoire of ornamental motifs from which the incised patterns were created was probably also influenced by the tools used. It is possible that the use of double saws inspired the creation of patterns made up of recumbent Z-shaped motifs. This design, highly popular in the provincial material, was created from two or three pairs of rightward slanting diagonal lines and bands of vertical lines separating them.<sup>284</sup> This design is sometimes also encountered in the Sarmatian material<sup>285</sup> and among the Imperial-period finds from County Nógrád<sup>286</sup> as well as in Bohemia,<sup>287</sup> but it should not be confused with other diagonal linear patterns, which have countless variations and abound in the Gepidic material of the Carpathian Basin. When searching for an exact parallel to the Imperial-period decoration, I found but a single good counterpart in the Gepidic material, the comb from Grave 19 of Szolnok-Zagyva-part, Alcsipusztá.<sup>288</sup> Although it still has to be proven that these combs are also associated through the tools employed in their production, this would explain the regional distribution of the motif and its disappearance during the Gepidic period. A different tendency can be noted in the case of the cross motifs created from pairs of diagonal lines, which were probably also made using a double saw in the provincial material.<sup>289</sup> This motif survived into the Gepidic period, although judging from the published photos and the Rákóczifalva assemblage, it was made using a different and simpler technique.

Owing to their simplicity, incised motifs are of little value in studies on continuity, the single exceptions being the ones in whose case the continuity of a particular tool type can be assumed. However, this calls for further studies. In the case of the Rákóczifalva assemblage,

<sup>280</sup> *MacGregor 1985 55–57*, noted that saw-cut decoration has a U-shaped section, while motifs incised with a knife have a V-shaped section. The use of saws was general in the case of Viking Age combs, see *MacGregor 1999 1935*.

<sup>281</sup> *Ulbricht 1978 35–37; MacGregor 1985 55*.

<sup>282</sup> *MacGregor 1985 55 and 56, fig. 33*.

<sup>283</sup> Kiszombor, Grave 32 (*Csallány 1961 Taf. CXI. 20*).

<sup>284</sup> *Biró 2002 39*, figs 39–46 and a double-sided comb with end profiling, e.g. Viminacium I, Grave 52 (*Ivanišević – Kazanski – Mastykova 2006 Pl. 9, 52. 2 and fig. 43. 1*).

<sup>285</sup> Nagykőrös-Szurdok-dűlő, Mészáros János MgTsz számú major (*Pintye 2009 174, fig. 9. 1*), Urziceni (Csanálos)-Vamă (*Gindele 2010 Abb. 67. 3, Taf. 113. 3*).

<sup>286</sup> *Szabó – Vaday 2011 16, Pl. 8. 2*.

<sup>287</sup> Lovosice (*Salač 2000 Abb. 4*).

<sup>288</sup> *Cseh 2005a Taf. 39, Gr. 19. 3*. The burial was deposited in a niche grave (*ibid. 22*).

<sup>289</sup> See the examples cited by *Biró 2002* and Viminacium I, Grave 34 (*Ivanišević – Kazanski – Mastykova 2006 Pl. 5, 34. 5 and fig. 18. 5*).

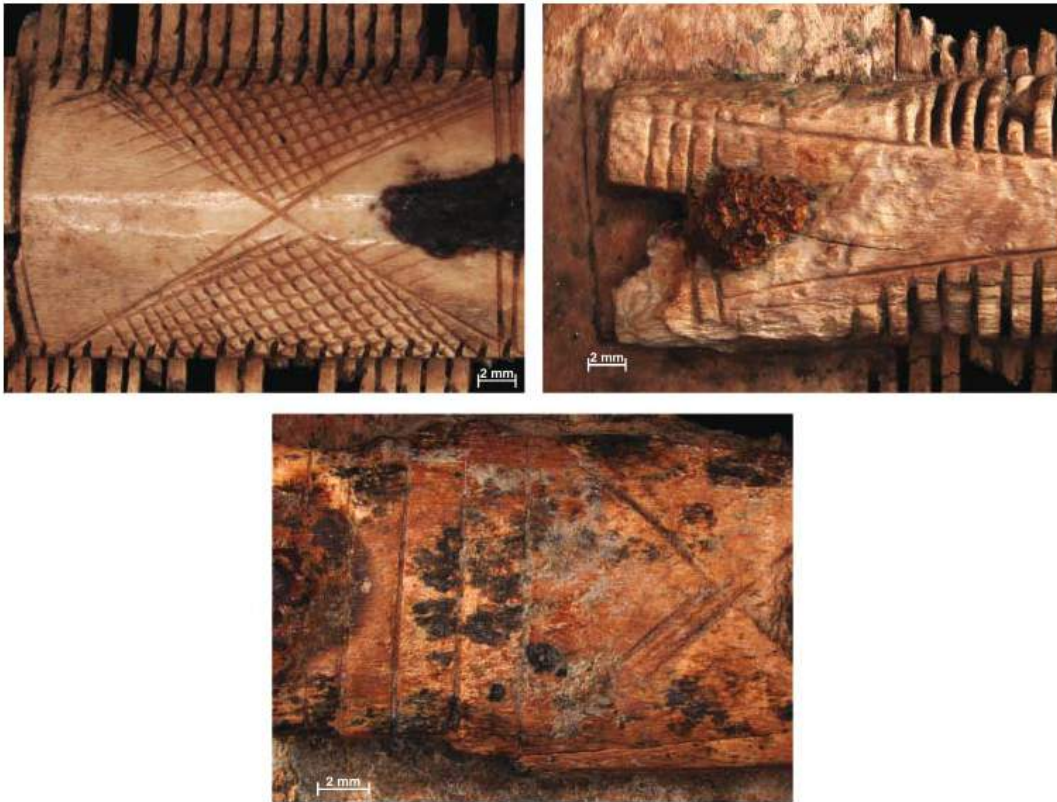


fig. 10. Incised motifs on double-sided combs from Rákóczifalva 1: Cat. no. 20, 2: Cat. no. 18, 3: Cat. no. 4

the continuity of incised ornamentation cannot be demonstrated, mostly because it does not comprise any Sarmatian combs decorated with incised designs.

Regional variations can be noted among the simple incised Gepidic motifs in the Tisza region. Several motifs that were popular to the south are lacking in the material north of the Körös Rivers: these include lattice patterns, antithetic herringbone patterns, the so-called wedge-shaped motif and the honeycomb patterns, and the simple bundles of vertical lines combined with linear patterns created from multiple lines that are dominant elsewhere are also infrequent. The decorative schemes also differ: for example, compositions involving solely the decoration of the two ends of the side plates were not employed.<sup>290</sup> The ornamentation of the entire surface, sometimes divided in two long panels, is more typical for this region.

#### *Stab-and-drag ornamentation*

This decorative technique creates impressed wedge-shaped motifs in two parallel lines, which is sometimes also called punched, chip-carved or impressed in the archaeological literature (*figs 11–12*).<sup>291</sup> Stab-and-drag decoration is uncommon on bonework from Pannonia, and only appears on combs. Its use was much less frequent on antler combs than incised designs. In Pannonia, stab-and-drag ornamentation can principally be found on lobed-backed combs<sup>292</sup>

<sup>290</sup> In addition to the southerly areas of the Hungarian Plain, a similar composition appears on a comb from a sixth-century female burial at Singidunum (Singidunum III, Grave I, *Ivanišević 2009 13*).

<sup>291</sup> *Bíró 2000a 169–170; Bíró 2000b 87; Bíró 2002 43; Medgyesi – Pintye 2006 67; Pintye 2009 171; Szabó – Vaday 2011 16–17*. It is generally believed that this ornamental technique imitated punched decoration on metalwork.

<sup>292</sup> *Bíró 2002 50, figs 110–131, as well as Páty (Ottományi 2001 fig. 7. b; Tejral 2011 110. 11).*



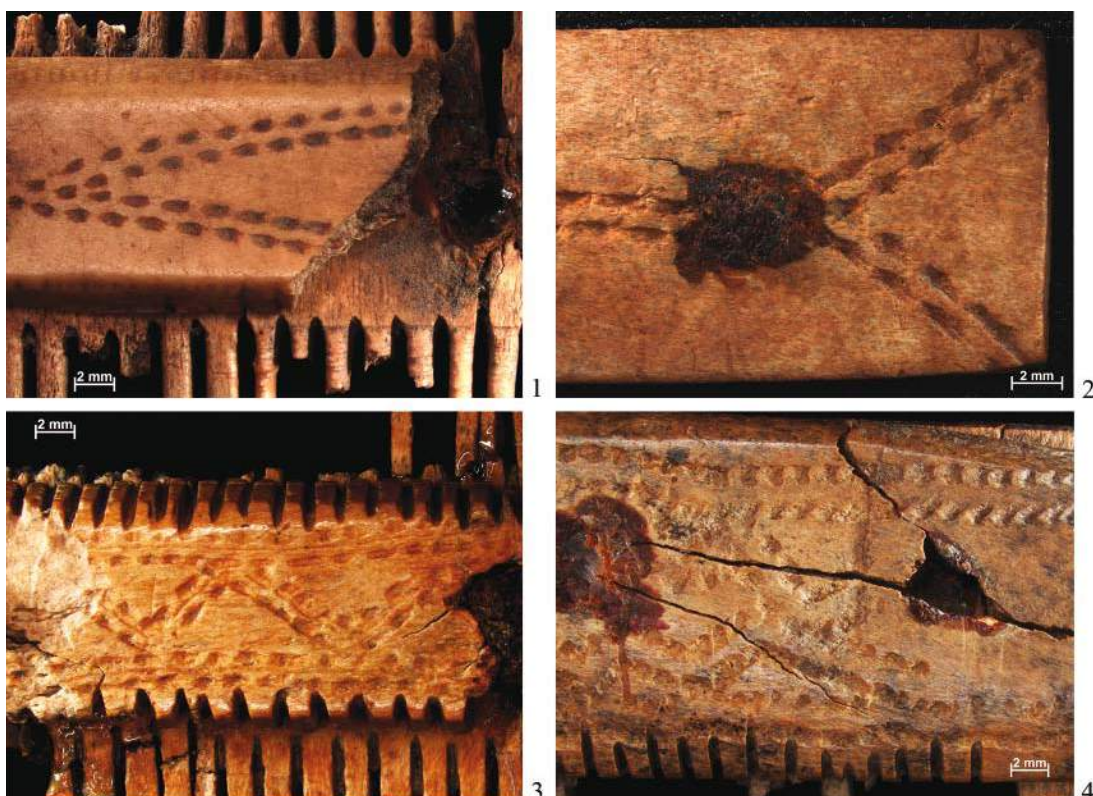


fig. 11. Stab-and-drag designs on single- and double-sided combs from Rákóczifalva 1: Cat. no. 8, 2: Cat. no. 17, 3: Cat. no. 10, 4: Cat. no. 5

and, more rarely, on double-sided combs<sup>293</sup> as well as on barbarian pieces of eastern type: an arched-backed comb from Aquincum and a Békéscsaba-type comb from Intercisa.<sup>294</sup> A single comb from Viminacium is decorated in this manner; similarly to the more northerly Pannonian pieces, it is not encountered on the later single-sided combs.<sup>295</sup> This decorative technique was only applied on a handful Maroszentanna–Chernyakhov- and Intercisa-type combs in Moesia.<sup>296</sup>

This ornamental mode is rarely found on the bonework of the more westerly provinces and occurs but sporadically on a few comb types. It can be noted on triangular-backed combs in the Rhine region<sup>297</sup> and Bavaria,<sup>298</sup> on a curved-backed comb from Augst,<sup>299</sup> and sporadically on both types in Baden-Württemberg.<sup>300</sup> These are rare, isolated finds west of the Central Danube region, and this ornamental mode disappears by the mid-fifth century.<sup>301</sup>

Stab-and-drag patterns appear on many diverse comb types in the regions north of the Danube in Lower Austria: on arched-backed combs,<sup>302</sup> on double-sided combs with bronze

<sup>293</sup> *Bíró 2002* 43, figs 76–81. The finds from the broader region include a triangular-backed comb from Wien-Lepoldau (*Beninger 1934* Abb. 37; *Pollak 1980* Taf. 198. 1) and an arched-backed exemplar from Enns (*Deringer 1967b* 61–62, Abb. 3, highlighting the unique nature of the ornamentation).

<sup>294</sup> *Lassányi 2010* fig. 11; *Intercisa I 1954* Pl. X. 10/b.

<sup>295</sup> *Ivanišević – Kazanski – Mastykova 2006* Pl. 1, 3. 3 (Viminacium I, single zig-zag line).

<sup>296</sup> *Petković 1995* T. X. 2–3.

<sup>297</sup> *Teichner 1999* 126.

<sup>298</sup> *Dannheimer 1962* Taf. 3. 1 and 18. 16.

<sup>299</sup> *Riha 1986* Taf. 4. 48.

<sup>300</sup> *Schach-Döriges 1994* 669, Abb. 5; 18.

<sup>301</sup> *Schach-Döriges 1994* 688.

<sup>302</sup> *Pollak 1980* Taf. 148. 1, 3, 6 (Straning).

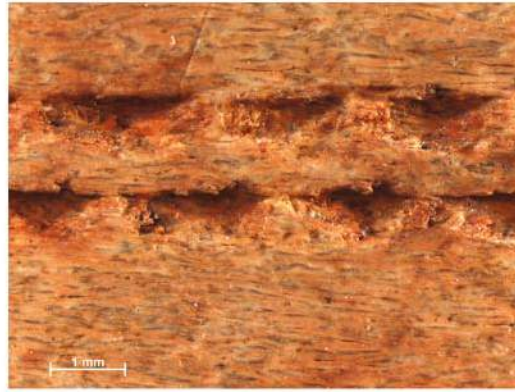


fig. 12. The stab-and-drag design of a double-sided comb (*Cat. no. 17*) from Rákóczifalva

rivets,<sup>303</sup> on a triangular-backed comb,<sup>304</sup> the latter also encountered in Moravia,<sup>305</sup> and on eastern Slovakian curved-backed<sup>306</sup> and double-sided combs.<sup>307</sup> It was widely popular on the double-sided combs of the Sarmatian period on the Hungarian Plain<sup>308</sup> as well as on the double-sided Gepidic combs in assemblages assigned to the earlier sixth century.<sup>309</sup> Aside from double-sided combs, it can be found on curved-backed combs,<sup>310</sup> on the Marosszentanna–Chernyakhov-type combs from Ibrány,<sup>311</sup> Szihalom<sup>312</sup> and the fifth-century burial of Szeged-Kundomb,<sup>313</sup> on a Békéscsaba-type comb<sup>314</sup> and on a single-sided short comb<sup>315</sup> in the material pre-dating the Gepidic period on the Hungarian Plain. Gábor Pintye noted the blend of decorative motifs on the different comb types from the Hungarian Plain.<sup>316</sup> Stab-and-drag ornamentation is barely attested in the Marosszentanna–Chernyakhov culture, save for a few combs from Transylvania.<sup>317</sup>

In the light of the above, this decorative technique was mostly employed in Pannonia and in the province's Germanic and Sarmatian foreland during the fourth century, and it can principally be found on barbarian combs betraying a direct Pannonian origin or influence.<sup>318</sup> Its origin remains uncertain: it could be regarded as being of Pannonian origin on the Hungarian Plain, while in Pannonia it is believed to bespeak Hun-period or Sarmatian influence.<sup>319</sup> I have discussed in detail the ornamental repertoire of stab-and-drag ornamentation: I found that while there are certain differences in the Sarmatian and Gepidic decorative motifs (as also exemplified by the Rákóczifalva assemblage), some motifs were popular in both periods,

<sup>303</sup> Lippert 1968 327, Abb. 1 (Schletz, today part of Asparn a. d. Zaya) and Tejral 1982 125, Abb. 45. Lippert 1968 330, notes the Gepidic parallels of the ornamental technique, which he regarded as an eastern Germanic trait.

<sup>304</sup> Mödling, Grave 2 (*GHA* 1987 342–343). A zig-zag line enclosed within a linear frame.

<sup>305</sup> Chrlice (*Tejral* 1982 202, Abb. 77).

<sup>306</sup> Drahňov (*Lamiová-Schmiedlová* 1964 obr. 2. 5), Šebastovce (*ibid.* obr. 2. 6–7), Seňa (*ibid.* obr. 3. 2). The first two have a stab-and-drag design combined with ring-and-dot motifs, the latter two are decorated with a wavy line enclosed within a linear frame.

<sup>307</sup> Šebastovce (*Lamiová-Schmiedlová* 1964 obr. 3. 4).

<sup>308</sup> Pintye 2009 171–172, figs 6–8.

<sup>309</sup> Bíró 2000 83, 87; B. Tóth 1994 290–291.

<sup>310</sup> Pintye 2009 177, fig. 13. 1–2.

<sup>311</sup> Pintye 2009 fig. 12. 2. This comb has obvious Pannonian connections (Szöny, Csákvár, see *ibid.* 177).

<sup>312</sup> Pintye 2009 fig. 12. 4.

<sup>313</sup> Pintye 2011 74–75, fig. 3. 7.

<sup>314</sup> Pintye 2009 fig. 14. 5.

<sup>315</sup> Pintye 2009 fig. 15. 5.

<sup>316</sup> Pintye 2009 181.

<sup>317</sup> Bíró 2002 59; Szabó – Vaday 2011 16–17.

<sup>318</sup> Szabó – Vaday 2011 16–17.

<sup>319</sup> Bíró 2000a 169–170; Bíró 2012 15.

indicating the continuous use of this decorative technique on the Hungarian Plain in the fourth–sixth centuries. The ornamental repertoire was probably enriched during the Hun period through cultural impacts from the provincial territories, even if – similarly to incised decoration – the regional distribution of Gepidic combs reflects a some local development too in the Tisza region.

The systematic review of the analogies to the combs of the Gepidic period revealed that regional groups can be distinguished among combs decorated with stab-and-drag patterns. It would appear that the decoration of the entire surface of the side plates with diverse motifs, among them the simple double wavy lines so popular at Rákóczifalva, was the norm in the Middle Tisza region,<sup>320</sup> while the combination of stab-and-drag and incised ornamentation was more typical south of the Körös Rivers.<sup>321</sup> The exclusive use of stab-and-drag designs can only be noted in the Kiszombor cemetery in the southern Tisza region (both on single-sided and double-sided combs). Considerably fewer stab-and-drag motifs are encountered across the entire settlement territory on the Hungarian Plain, one of these being simple wavy lines bounded by stab-and-drag lines, which has Roman-period forerunners in the material from the Hungarian Plain.

### *Incised marginal lines*

*Cat. no. 6* is quite unique among the combs from the site (*fig. 13*). While the incised parallel lines on the other combs were made using a single-pronged tool,<sup>322</sup> the triple lines on this comb are perfectly parallel. The incisions are wider and more even than on the other combs from Rákóczifalva. The incised lines following the outline of the edge (“*randparallele Linien*”) are made up of three wide, deep, flat-bottomed grooves.<sup>323</sup>

The analogies to the comb and its decoration clearly point towards the Langobardic lands.<sup>324</sup> This special tool has not received any attention in relation to the early Migration-period material so far. It has only been discussed in Roman studies and in relation to the bonework from Haithabu. These wide incised lines run parallel not only to each other, but also to the edge of the comb, irrespective of whether the lines are straight, curved, triangular or other. The distance between the incised design and the edge is identical: the parallel lines were incised at the same distance from the edge. Although the tool used for ornamentation, possibly a scribing implement, remains uncertain,<sup>325</sup> one possible reconstruction has been proposed based on the bonework from Aquincum.<sup>326</sup>

<sup>320</sup> In addition to the above-cited motif appearing on the Rákóczifalva combs, other stab-and-drag motifs include various garland motifs, as on the combs from Szanda, Grave 47 (*Bóna 2002c* Taf. 35, Gr. 47. 1), Grave 64 (*ibid.* Taf. 36, Gr. 64. 1), Grave 71 (*ibid.* Taf. 36, Gr. 71. 1) and Grave 78 (*ibid.* Taf. 38, Gr. 78. 1), Szolnok-Zagyva-part, Alcsi, Grave 21 (*Cseh 2005a* Taf. 40, Gr. 21. 2, and *Gepidák 1999* Cat. no. 210) and Hajdúnánás-Fürj-halom-dűlő, Grave 839/1092 (*Stadler et al. 2008* Abb. 17. 7); pieces from sites south of the Körös Rivers are the combs from Magyarcsanak-Bökény, Grave 36 (*Nagy 2005b* Taf. 25, Gr. 36. 1) and Szőreg, Grave 75 (*Nagy 2005*, Taf. 60, Gr. 75. 3).

<sup>321</sup> In addition to the cited combs, other exemplars are known from Berekhát, Grave 205 (*Csallány 1961* Taf. LII. 1; CCLXIV. 9), Grave 253 (*ibid.* Taf. LXI. 10) and stray finds from the cemetery (*ibid.* Taf. XCVII. 10, 16) as well as from Kiszombor (*ibid.* Taf. CCLXIV; CCLXVI) and Bratei (*Bârzu 2010* Taf. 84. 3), while only a single piece is known from Szanda, from Grave 75 (*Bóna 2002c* Taf. 36, Gr. 75. 2). The combination of incised and stab-and-drag patterns also appears on single-sided combs south of the Körös Rivers. In the light of the above, these combs were probably typically regional Gepidic products: Kiszombor, Grave 376 (*Csallány 1961* Taf. CLIII. 4; CCLXIV. 7), Berekhát, Grave 41 (*ibid.* Taf. LVI. 20; CCLXVI. 1), Bratei (*Bârzu 1995* fig. 17. 3).

<sup>322</sup> Similarly to the motifs on the combs from County Nógrád, see *Szabó – Vaday 2011* 16.

<sup>323</sup> *Ulbricht 1978* 45.

<sup>324</sup> The photos of Langobardic combs indicate that the ornamental patterns were made using a similar technology, e.g. on two combs of differing craftsmanship from Borotice (*Stuchlik 2011* Taf. 113. 13/X. 1 and Taf. 115. 27/XX. 2) and on the exemplar from Pottenbrunn, Grave 52, on which the two end plates were decorated in a similar manner (*Neugebauer 2005* Abb. 2; *Blesl 2012* 46, Abb. 75). Obviously, this is hardly true of each and every Langobardic comb – it remains a task for future technological studies to identify different workshop traditions.

<sup>325</sup> *MacGregor 1985* 61.

<sup>326</sup> *Vecsey 2012* 61, figs 38–41.



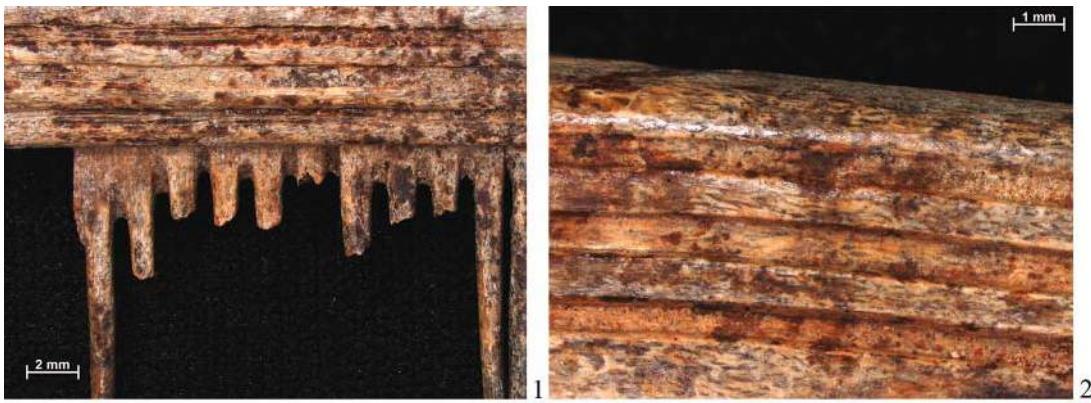


fig. 13. Single-sided comb with marginal lines (*Cat. no. 16*) from Rákóczfalva

Judging from the archaeological literature, comb-makers of the fourth to sixth centuries used this tool over an extensive area for decorating various comb types:<sup>327</sup> on the triangular-backed combs of the fourth–fifth centuries,<sup>328</sup> on arched-backed combs,<sup>329</sup> on the Merovingian double-sided combs of the Rhine and Neckar region,<sup>330</sup> on similar combs from Moravia<sup>331</sup> and on single-sided combs from Bavaria.<sup>332</sup> The overall picture suggests a technology used on Roman territories and in their neighbourhood, which was also used for adorning combs that are expressly classified as Germanic by German scholarship. The use of this decorative technique on the combs of the Middle Danube region is uncertain.<sup>333</sup> In some regions, the tool was used for decorating the new comb types appearing in the fifth century: the double-sided combs of the early Migration period in the Rhine region and the single-sided Langobardic combs in the Moravian Basin (and, later, in Pannonia). Judging from the combs found at Haithabu and in England, this technology survived up the early medieval period in comb-making.

In the Gepidic territory, combs with incised marginal lines following the outline of the edge quite certainly reflect western connections. This is also supported by the different comb forms and the use of other ornamental techniques such as ring-and-dot motifs. These traits appear together on some combs, and the number of combs is low. Incised marginal lines are also attested on the single-sided combs from Viminacium.<sup>334</sup> Judging from the associated finds, these combs cannot be dated earlier than the turn of the fifth and sixth centuries.<sup>335</sup> Similarly to the origin of single-sided combs, the current evidence is too scarce for determining whether this decorative technique can be fitted into the craft industry of the antique period or whether it should be regarded as a northern Germanic influence from the Middle Danube region. Whichever the case, this ornamental technology represents an

<sup>327</sup> However, no conclusive assertions can be made without regional technological studies. Still, this technique can be relatively easily identified on illustrations, especially in the case of triangular-backed and arched-backed combs, on which the motif could hardly have been made using a more rudimentary tool.

<sup>328</sup> As emphasised, e.g., by *Teichner 1999* 127; *Koch 2001* Taf. 21. 3 (Gr. 49), Taf. 26. 8 (Gr. 65).

<sup>329</sup> *Schach-Dörge 1994* 686–694.

<sup>330</sup> Double-sided combs with simple marginal lines are known, e.g., from Pleidelsheim: *Koch 2001* 188, Taf. 6. 5 (Gr. 8), Taf. 14. 6 (Gr. 27), Taf. 30. 2 (Gr. 74), Taf. 39. 2 (Gr. 101), Taf. 85. 9 (Gr. 229), Taf. 94. 7 (Gr. 246).

<sup>331</sup> Vyskov (*Tejral 1982* Taf. XVII. 2).

<sup>332</sup> Bittenbrunn, Grave 25 (*GHA 1987* 598).

<sup>333</sup> For example, it is only attested on animal-headed triangular-backed combs of the western type in Moesia (*Petković 1995* T. VIII. 3, 6).

<sup>334</sup> *Ivanišević – Kazanski – Mastykova 2006* fig. 43. 5 and perhaps 4. The marginal lines on the single-sided comb with ring-and-dot motifs shown in fig. 43. 2 were made with a one-pronged tool leaving more irregular marks.

<sup>335</sup> *Ivanišević – Kazanski – Mastykova 2006* 122. This date is in line with the formal typochronology of the combs (see above for a detailed discussion).

intrusive element in the Gepidic territory and reflects the appearance of combs produced in western (Langobardic) or southern (southern Pannonian) workshops on the Hungarian Plain in the sixth century.

*The lack of ring-and-dot motifs and its implications*

Ring-and-dot motifs appear on several bone artefact types, including antler combs, during many periods and in various regions. However, they are almost wholly absent in the Gepidic lands. It has been pointed out more recently that this decorative motif is lacking from the ornamental repertoire of the combs of the Gepidic period,<sup>336</sup> and Mária Bíró raised the possibility that this could be explained by the lack of a suitable tool for creating the motif.<sup>337</sup> Several tools could be employed for making ring-and-dot motifs: in the case of combs, these could have been compass drawn<sup>338</sup> or made using a metal drill,<sup>339</sup> a special saw known as the crown-saw,<sup>340</sup> or a simpler, three-pronged tool with which a regular round motif could have been drawn by turning it.<sup>341</sup> Very rarely, the motif was also incised freehand.<sup>342</sup> We may therefore assume the use of different tool-kits as one feasible explanation for the motif's absence, which thus has a cultural relevance.

Ring-and-dot motifs were widely-used decorative elements on various comb types in the provincial territories.<sup>343</sup> They were used for ornamenting the triangular-backed and figural combs found in the Intercisa bone workshop.<sup>344</sup> Its distribution was less regional in nature than of stab-and-drag patterns, given that it is widely attested among the northern barbarian peoples, for example in the Elbe Germanic region.<sup>345</sup> In Moravia, the motif appears on curved-backed,<sup>346</sup> double-sided,<sup>347</sup> and lobed-backed combs alike.<sup>348</sup> In Lower Austria, ring-and-dot motifs can be found on arched- and triangular-backed combs,<sup>349</sup> as well as on the lobed-backed exemplar from Untersiebenbrunn.<sup>350</sup> Its use continued in the Germanic territories of eastern Slovakia and is attested on the arched-backed, double-sided and Marosszentanna–Chernyakhov-type combs too.<sup>351</sup> Interestingly enough, the fourth–fifth-century double-sided combs from Viminacium lack this motif, which only appears on later single-sided combs from the sixth century, fitting in nicely with the material from Transdanubia.<sup>352</sup> For example,

<sup>336</sup> Bíró 2002 36, 59; Ottományi 2008a 118; Pintye 2009 175.

<sup>337</sup> Bíró 2000b 21–22. For a discussion of the Intercisa bone workshop from this aspect, see Bíró 2009 73 and Vass 2009 87; for an overview of the technology of the finds from the Barbaricum, see Szabó – Vaday 2011 17–18.

<sup>338</sup> Ulbricht 1978 43–44, offering a reconstruction of a tool suitable for making ring-and-dot motifs.

<sup>339</sup> Vecsey 2012 56–59, with a reconstruction of a tool suitable for creating the double or triple ring-and-dot motifs adorning the bone artefacts from Aquincum.

<sup>340</sup> MacGregor 1985 60–61, fig. 37, showing the Roman saw from Bingen.

<sup>341</sup> MacGregor 1985 61, fig. 38. Tools of this type are known from the Moravian period.

<sup>342</sup> MacGregor 1985 60.

<sup>343</sup> Bíró 2000b 169–170 and Bíró 2002 59–60. Other parallels can be cited from along the Norican-Pannonian *limes*: Gerulata, Grave 5 (*Kraskovská* 1976 57, fig. 85. 16), Carnuntum (*Grünwald* 1981 Taf. 16. 1–2 and other stray finds) and Enns (*Deringer* 1967a 65, Nr. 10–11, 16, Abb. 5 and *Deringer* 1967b Abb. 2); cp. also a comparable piece from Linz (*Ruprechtsberger* 1999 49).

<sup>344</sup> Salamon 1976 fig. 3. 2; fig. 4. 2–3.

<sup>345</sup> Schach-Döriges 1994 664.

<sup>346</sup> Komin, from an inurned burial (*Tejral* 1975 Taf. 13. 5).

<sup>347</sup> Velatice (*Tejral* 1982 219–222, Abb. 101. 1), Vyskov (*ibid.* 225–227, Abb. 105. 3 and Taf. XIX. 3).

<sup>348</sup> E.g. among the workshop finds from Zlechov (*Tejral* 1982 40, Abb. 11. 6 and *Zeman* 2007 Abb. 14. 13–14), Pohořelice-Nová Ves (*Tejral* 2011 Abb. 62. 4), Drslavice (*ibid.* Abb. 79. 1) and Modrá (*ibid.* Abb. 81, 122). See also *Gostenčnik* 2005 324–325.

<sup>349</sup> Ravelsbach (*Pollak* 1980 Taf. 96. 2), Straning (*ibid.* Taf. 148. 4–8).

<sup>350</sup> *Tejral* 2011 Abb. 86. 6; 172. 2.

<sup>351</sup> Lamiová-Schmiedlová 1964 obr. 1. 5–6; 2. 6–7; 3. 2.

<sup>352</sup> Ivanišević – Kazanski – Mastykova 2006 figs 19–20. The motif appears on long single-sided combs as well as on double-sided exemplars in the Kormandin cemetery (*Dimitrijević* 1960 Tab. 1. 6; 3. 20).

the motif is encountered on both double- and single-sided combs recovered from the seventh–eighth-century Bavarian burial grounds in Austria.<sup>353</sup>

East of the Danube, ornamental dot-and-ring motifs are expressly rare in the Barbaricum even before the Gepidic period. It has been found on a few curved-backed combs of the Roman Imperial period from Sarmatian and Germanic contexts.<sup>354</sup> It is attested on a single double-sided comb on the northern fringes of the Sarmatian territory.<sup>355</sup> The motif appears on several comb types from County Nógrád as well as among the pieces from County Borsod.<sup>356</sup> It would appear that it was more widespread in the Germanic territories than on the Hungarian Plain occupied by the Sarmatians. Similarly to the distribution of certain comb types, the use of the motif reflects cultural differences. It is also rare during the Hunnic period, appearing on a few rare comb types only: a bell-shaped comb from Tiszalök-Rázom, a triangular-backed comb from Kisvárdá-Darusziget and a double-sided comb with end profiling from Timișoara (see above).

Given the technological background and the antecedents, the Gepidic sites yielding combs ornamented with this motif merit special attention. The motif is attested on double-sided combs from Onga,<sup>357</sup> Tiszaeszlár,<sup>358</sup> Tiszatardos<sup>359</sup> and Tiszabura-Pusztataskony-Ledence I.<sup>360</sup> The single larger Gepidic row-grave cemetery where the motif appears on the side plate of a double-sided comb is Szentes-Kökényzug.<sup>361</sup> With the exception of the latter, the other sites all lie on the northern fringes of the Gepidic settlement territory in the Hungarian Plain, in areas where the motif occurs during the Hunnic period too. Thus, the ornamentation appearing on the double-sided combs of the Hungarian Plain could have a dating value. The motif is occasionally encountered on end plates, whose ornamentation is rare in the Gepidic corpus of combs and perhaps reflects southern influences,<sup>362</sup> as well as on single-sided combs attesting to western impacts (Rákóczifalva-Kastélydomb) and on other individual comb types (Hajdúszoboszló). These exemplars are exceptions to the rule and tend to underpin the connections with the Germanic cultural milieu of the Roman period or with the late antique world during the Gepidic period.

Depending on the comb type, the incidence of ring-and-dot ornamentation in the find assemblages from eastern Hungary can have a chronological, regional or cultural relevance. The technique for creating the ornamental motif was not widespread either among the Sarmatians or the Gepids of the Hungarian Plain since the tool needed for its creation was not part of the tool-kit. This has a certain relevance regarding the question of whether provincial Roman workshops traditions had been adopted during the Gepidic period for it challenges both the intensity and importance of direct contacts.

<sup>353</sup> E.g. Rudelsdorf (*Deringer 1967a* 37–38 and 41, Textabb. 3). It was earlier regarded as an expressly Germanic ornamental motif in this region (*Deringer 1967b* 57–59).

<sup>354</sup> *Pintye 2009* 177.

<sup>355</sup> Sajószentpéter-Vasúti őrház, Feature 722 (*Pintye 2009* fig. 11. 4).

<sup>356</sup> *Párducz – Korek 1958* Pl. VIII. 6; *Csengeri – Pusztai 2008* fig. 18; *Szabó – Vaday 2011*.

<sup>357</sup> *Soós 2014* fig. 3. 2.

<sup>358</sup> *Csallány 1961* 218, Cat. no. 170, Taf. CXC VIII. 34. The assemblage is dated by an animal-headed buckle (*ibid.* Taf. CCI. 16). *B. Tóth 1994* note 19, too highlighted its ornamentation.

<sup>359</sup> *Csallány 1961* 237, Cat. no. 232, and 311, Taf. CCII. 14. The comb was the single grave good in the burial, and thus its dating as well as its Gepidic attribution remain uncertain.

<sup>360</sup> Double-sided comb from a Gepidic grave group. Excavation of the Institute of Archaeological Sciences of the Eötvös Loránd University, 2009–2010, unpublished.

<sup>361</sup> Grave 34 (*Csallány 1961* Taf. III. 12), without any other dating finds, and Grave 81 (*ibid.* Taf. XVIII. 11), with a pair of radiate-headed brooches with five knobs. This issue was also covered by *Szabó – Vaday 2011* 18.

<sup>362</sup> Hódmezővásárhely-Kishomok, Grave 60 (*Bóna – Nagy 2002b* Abb. 45), Szőreg, Grave 62 (*Csallány 1961* Taf. CCLXIII. 6), Malomfalva (*ibid.* Taf. CCLXII. 12) and Bratei, Grave 223 (*Bárzu 2010* Taf. 37, 223. 5).

*Manufacturing techniques*

The manufacturing techniques of antler combs have principally been studied in the light of the workshop finds from Northern Europe.<sup>363</sup> The findings of these studies contribute to the interpretation of the technological marks on the combs from Rákóczifalva.<sup>364</sup>

The combs were all made from antler (see the *Appendix*). Opinions vary as to whether the raw material was softened during the manufacture of combs. Following Thomas, Riha too believed that softening was practiced,<sup>365</sup> as did MacGregor who expressly linked the creation of ring-and-dot motifs to softening.<sup>366</sup> In contrast, softening as part of comb manufacture was rejected in the case of the finds from Haithabu<sup>367</sup> and Birka.<sup>368</sup>

The tooth plates and side plates were generally prepared by sawing. The preparation of the antler was followed by splitting off slips of antler for the tooth plates.<sup>369</sup> There are few traces of this work phase in the workshops. Chisels suitable for this purpose have only been recovered from Roman contexts; in later periods, the use of wedges is assumed and an antler tool for splitting antler is also known.<sup>370</sup> Draw-knives were used for creating the final form of the plates,<sup>371</sup> which were then smoothed and polished, for which several options were available.<sup>372</sup> It is possible that polishing was performed with a knife, which would leave traces known as chatter marks. Marks of this type are visible on the diagonal side of the trapezoidal side plate of a comb from Rákóczifalva (*Cat. no. 8, fig. 11. 1*).<sup>373</sup> It must also be borne in mind that smoothing and polishing can largely obliterate the marks of the preceding manufacturing phase.

Following the manufacture of the plates, the rivet holes were drilled.<sup>374</sup> It seems likely that some sort of clamp was used for this procedure<sup>375</sup> in order to ensure that the three layers (the two side plates and the tooth-plates) remain in place. The plates were then riveted together.<sup>376</sup>

One widespread cliché regarding riveting is the frequent use of bronze rivets. In fact, it is only worthwhile to study comb rivets within Roman provinces and in the *limes* regions, where

<sup>363</sup> For a comprehensive treatment, see *Ambrosiani 1981* 38–40, 157–162.

<sup>364</sup> Since the combs from Rákóczifalva do not represent workshop finds, the complete *chaîne opératoire* shall not be discussed here. For a detailed treatment of the Central European workshop finds, see, e.g., *Ruprechtsberger 1999* 51–52. The waste of a Roman bone workshop was recently discovered at Salzburg, Makartplatz 6 (*Lang 2012*). The most remarkable later, Viking Age workshop sites are Haithabu (*Ulbricht 1978*), Birka (*Ambrosiani 1981*) and York (*MacGregor 1999*), as well as the smaller ninth-century comb workshop found near San Vincenzo Maggiore (*Mitchell 2011* 269–279). In Hungary, workshops have been identified at Intercisa (*Salamon 1976*), Ózd (*Párducz – Korek 1958*), Tiszagyenda (*Bárány – Hajnal 2010*) and Szurdokpüspöki (*Szabó – Vaday 2011* with a discussion of comb making in the Barbaricum). For the bone workshops of the Sarmatian period, see *Pintye 2009* 183, for the Gepidic-period workshops in the Tisza region, see *B. Tóth 2006* 75. The workshop waste material from the Chernyakhov settlement at Bârlad is of outstanding importance (*Palade 2004* 167–172).

<sup>365</sup> *Riha 1986* 20.

<sup>366</sup> *MacGregor 1985* 61, 63–65; *MacGregor 1999* 1910–1912.

<sup>367</sup> *Ulbricht 1978* 46–50.

<sup>368</sup> *Ambrosiani 1981* 109. The manufacturing process described here has been tested and confirmed by experimental archaeology, see *ibid.* 112–118, for the technical reconstructions, see also *Pietzsch 1980*; *Galloway – Newcomer 1981*.

<sup>369</sup> *Ulbricht 1978* 33–37; *MacGregor 1985* 55–58; *Vass 2009* 86.

<sup>370</sup> *Ulbricht 1978* 39–40; *MacGregor 1985* 57.

<sup>371</sup> *Ulbricht 1978* 38; *MacGregor 1985* 58; *MacGregor 1999* 1910, for the shavings removed with a draw-knife, see *ibid.* figs 875–876.

<sup>372</sup> For smoothing and polishing, and the possible tools used for it, see *Ulbricht 1978* 40–41; *MacGregor 1985* 58; *Szabó – Vaday 2011* 12.

<sup>373</sup> *MacGregor 1985* 58. The marks resemble the *Rädchenverzierung*-like drag marks on wheel-turned pottery produced by the knife or polishing tool on leather-hard or harder clay.

<sup>374</sup> *Ulbricht 1978* 41–43; *MacGregor 1985* 59–60; *Vass 2009* 87.

<sup>375</sup> *Ulbricht 1978* 52; *MacGregor 1985* 62.

<sup>376</sup> *Ulbricht 1978* 51–54; *MacGregor 1985* 62–63.

their differential use quite likely reflects workshop traditions of differing sophistication.<sup>377</sup> Mainly iron rivets were used in the Merovingian period, as, for example, in the case of Alemannic<sup>378</sup> and Italian Langobardic combs,<sup>379</sup> as well as in the production of Bavarian combs in the seventh–eighth centuries.<sup>380</sup> Bronze rivets were used but occasionally.<sup>381</sup> Similarly, the ninth–eleventh-century combs produced in England were made with iron rivets, as were the Birka combs up to the tenth century.<sup>382</sup>

The use of reinforcing rivets can be seen on one comb (*Cat. no. 5*): although an infrequent practice, it has also been attested in other cases too, for example on a comb from Szurdokpüspöki,<sup>383</sup> which was reinforced at some point during its use, as well as on exemplars from Polgár and Sajószentpéteri dating from the Imperial period.<sup>384</sup>

The combs were probably polished before they were assembled.<sup>385</sup> However, this phase should be distinguished from the second polishing after the plates had been riveted. The outlines of the comb's side plates could be clearly made out on the tooth plates on some of the Rákócziyalva combs: the area underneath the side plates was thicker and more prominent. Traces of polishing can be made out on the end plates even with the naked eye under raking light: these marks are perpendicular to each other beside the side plates. As can be seen on the fragmentary combs, the smoothing marks “avoid” the place of the side plate (*figs 10. 2; 11. 1; 14*). The projecting tops of the tooth plates were removed and the plates were filed flush with the back before the teeth were actually cut; however, this thinning cross-section can be noted on the end plates too. The surface is occasionally “stepped” along the edges of the side plates on some pieces, while on others it has a fine rib. This might reflect two differing traditions, although the exemplars without any trace of subsequent polishing differ more markedly from the former.

This work phase was attested also during the study of the manufacturing technique of the Haithabu combs, suggesting that while the tools used for the procedure remain uncertain, the procedure itself can be seen as having been widely practiced.<sup>386</sup> Although this work phase is rarely highlighted in the case of Migration-period combs, the published illustrations would suggest that it was quite widespread. Combs made using this procedure are known from Sarmatian contexts too,<sup>387</sup> and this work phase is attested on the workshop finds from Bârlad,<sup>388</sup> on various types of Viminacium combs,<sup>389</sup> on the combs from Augst,<sup>390</sup> on the fifth-century combs from Onga,<sup>391</sup> as well as on Langobardic combs from Moravia.<sup>392</sup> Traces of pre-incised guidelines can sometimes be noted, which aided the even spacing of the teeth.<sup>393</sup>

<sup>377</sup> *Bíró 2002* 55–56; *Ottományi 2008a* 153. Bronze rivets were used, for example, in the case of the Pannonian narrow round-backed combs (*Bíró ibid.*), the arched-backed combs from Baden-Württemberg (*Schach-Dörges 1994* 668) and the Hun-period animal-headed comb from Lébény (*Tejral 2011* Abb. 39), underpinning the Roman connections of these pieces.

<sup>378</sup> *Grünwald 1988* 122; *Schach-Dörges 1994* 681.

<sup>379</sup> *von Hessen 1971* 37.

<sup>380</sup> *Deringer 1967a* 37.

<sup>381</sup> E.g. by the Langobards in Moravia: *Čížmař 2011* 146.

<sup>382</sup> *MacGregor 1999* 1931; *Ambrosiani 1981* 72.

<sup>383</sup> *Szabó – Vaday 2009* 14, Pl. 8. 2a–b.

<sup>384</sup> *Pintye 2009* 174, fig. 11. 2.

<sup>385</sup> This was a general practice in the case of later combs: *MacGregor 1999* 117.

<sup>386</sup> *Ulbricht 1978* 52–53, Taf. 30. 19.

<sup>387</sup> *Pintye 2009* fig. 3. 5–6, fig. 4. 2.

<sup>388</sup> *Palade 2004* figs 7. 47; 33. 25–26; 65. 5.

<sup>389</sup> *Ivanišević – Kazanski – Mastykova 2006* fig. 43. 1 (double-sided comb with end profiling) and fig. 43. 4 (curved-backed single-sided comb).

<sup>390</sup> *Riha 1986* Taf. 4. 48; 63. 53.

<sup>391</sup> *Soós 2014* fig. 3.

<sup>392</sup> E.g. a double-sided comb from the Langobardic burial ground at Borotice (*Stuchlík 2011* Taf. 7. 27/XXIII. 1) and on a comb from Holubice (*Čížmař 2011* Taf. 12, Gr. 35. 9).

<sup>393</sup> *MacGregor 1985* 62, fig. 39 (comb with end profiling bearing guidelines on the end plate from Abingdon, Oxfordshire).



Although marks of this type are not attested among the pieces from Rákóczifalva, it has been noted in the material from County Nógrád.<sup>394</sup>

The teeth were usually cut after riveting and polishing.<sup>395</sup> The finds from the comb workshop uncovered at Bârlad included semi-finished arched-backed combs whose plates were already riveted together, the upper projecting tops of the tooth plates had been removed, but the teeth had not been cut.<sup>396</sup> In rare instances, an inverted sequence can be noted, namely that the teeth were cut before the plates were riveted together. According to Deringer, this procedure was followed for the best-quality combs at Lauriacum (such as an animal-headed triangular-backed comb).<sup>397</sup>

The combs from Rákóczifalva reflect a great diversity in the technology of how the teeth were cut. From a frontal view, there can be two types of technological marks at the base of the teeth: straight or angled. Angled marks, visible to the naked eye, were observed on one side only in the case of some combs and on both sides in the case of others (*fig. 14*). The cuts sometimes extended to the side plates on pieces which had teeth with an oblique base, while the cut marks never damaged the end plates on combs with teeth with a straight base,<sup>398</sup> suggesting that the same tool was used for cutting the teeth, which was either held perpendicularly or at an angle, i.e. that the teeth were either cut from one side or from two sides, or that they attained their final form after being worked with a finer tool. Whichever the case, the entire procedure was performed after the plates had been riveted together. The angled marks indicate the use of several tools: in addition to the marks indicating a finer tool, resembling the marks in the material from County Nógrád,<sup>399</sup> the marks on other combs are thinner and more sharply cut.

The saw marks on *Cat. no. 20* are quite unique at Rákóczifalva: they appear to have been left by a rip saw with teeth were bent away from the blade (*fig. 15. 1–2*). The cutting of the teeth from one or two directions can be correlated with different technologies and formal traits, and the technological traces thus reflect different craftsmen and different workshop traditions. Finally, the teeth were polished, a procedure of which several variations were noted at Rákóczifalva: the individual polishing of each tooth, the coarse filing of the tips, and the polishing of the tooth tips (see *fig. 15* and the *Appendix*).

Although these finer details have rarely been studied on combs dating from roughly the same period, variations in how the teeth were cut among the combs from the same site have been noted in several instances.<sup>400</sup> These finer detail reveal, for example, that the cut marks extending to the side plate can in some cases be definitely regarded as part of the ornamentation because – technologically speaking – there was no need for cuts on the side plates on both sides. The creation of symmetrical sides to the comb is only characteristic of certain regions.<sup>401</sup>

<sup>394</sup> Szabó – Vaday 2011 13.

<sup>395</sup> Deringer 1967a 37; Grünwald 1981 22; Riha 1986 20; Ruprechtsberger 1999 50; MacGregor 1999 1917; Vecsey 2012 63.

<sup>396</sup> Palade 2004, fig. 44. 11; 31. 2.

<sup>397</sup> Deringer 1967b 73.

<sup>398</sup> Pieces with teeth cut from one or two sides can be distinguished among the combs from County Nógrád based on the cut marks on the side plates and the angled marks on the tooth plates. Various straight and oblique lines can be made out on both sides on some double-sided combs (Szabó – Vaday 2011 Pl. 5. 1–2; 9. 1), while some pieces, including lobed-backed exemplars (*ibid.* Pl. 7. 1–2), double-sided pieces with end profiling (*ibid.* Pl. 8. 1–2) and a simple double-sided specimen (*ibid.* Pl. 9. 2), have angled marks on both sides. Similarly to the pieces from Rákóczifalva, the combs shown in *ibid.* Pl. 6. 1–2, bear straight and angled marks at the tooth bases. At the same time, the long sides of the side plates bear cut marks, suggesting subsequent working for ornamental purposes.

<sup>399</sup> Cp. Szabó – Vaday 2011 Pl. 10. 5.

<sup>400</sup> Ulbricht 1978 53–54, esp. Taf. 33. 8; Schach-Döriges 1994 683; MacGregor 1999 1931; Stauch 2004 175. In the latter two cases, this might indicate chronological differences.

<sup>401</sup> E.g. the double-sided comb with incised decoration from Holubice, Grave 9 (Čížmař 2011 Taf. 8, Gr 9. 2). One of the main difficulties in this case is that very often only one side of the comb is illustrated.

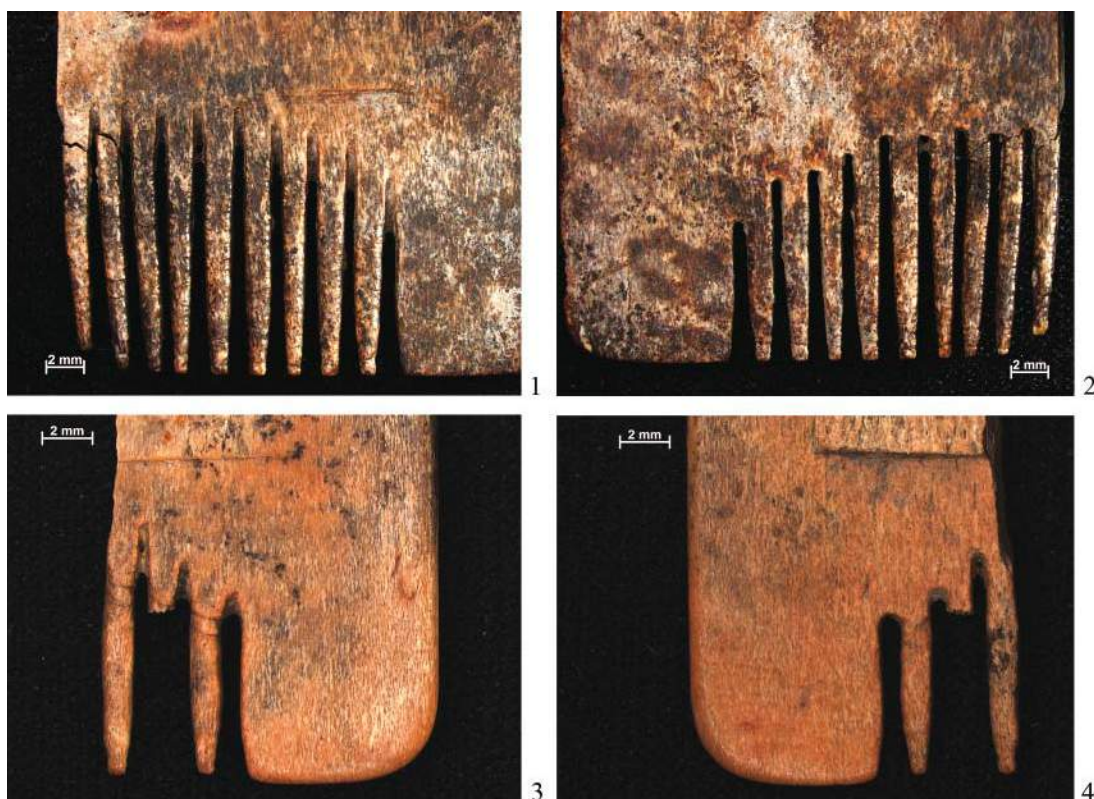


fig. 14. Cut marks on teeth, on the front and back side of the end plates of double-sided combs from Rákóczifalva 1–2: Cat. no. 1, 3–4: Cat. no. 14

Finally, a word about ornamentation. Although it is here discussed as the concluding stage of the *chaîne opératoire*, it has been emphasised in several studies that the side plates had often been decorated before the rivet holes were drilled and the plates were assembled.<sup>402</sup> This was the general procedure in the case of the combs from Augst,<sup>403</sup> the ninth–eleventh-century British combs and at Haithabu.<sup>404</sup> Examples of both procedures can be cited from Rákóczifalva: some combs had quite obviously been decorated before they were riveted together, while on others the ornamentation was added afterwards (*figs 10–11*). The former is indicated by cases when the rivets cut through the decoration, the latter by the incorporation of the rivets into the ornamental pattern.<sup>405</sup> The two procedures show a correlation with ornamental techniques and other traits, perhaps again a reflection of different workshop traditions.

#### *Technological groups and workshops*

The combs can be classified according to several criteria in view of their technological traits, their form and their ornamentation, although there are overlaps in ornamentation between the groups distinguished on the basis of technological traits, and a classification based on technological groups is in part independent of ornamentation. Taking these criteria as my

<sup>402</sup> E.g. in the case of the material from County Nógrád, see Szabó – Vaday 2011 12.

<sup>403</sup> Riha 1986 20.

<sup>404</sup> Ulbricht 1978 51; MacGregor 1999 1917.

<sup>405</sup> In these cases, the ornamentation was perhaps added after the rivet holes had been drilled, but before the actual riveting. For the description of this work phase, see Szabó – Vaday 2011 13. Obviously, if the ornamentation only extends along the edges of the side plates, this particular issue remains unresolved.

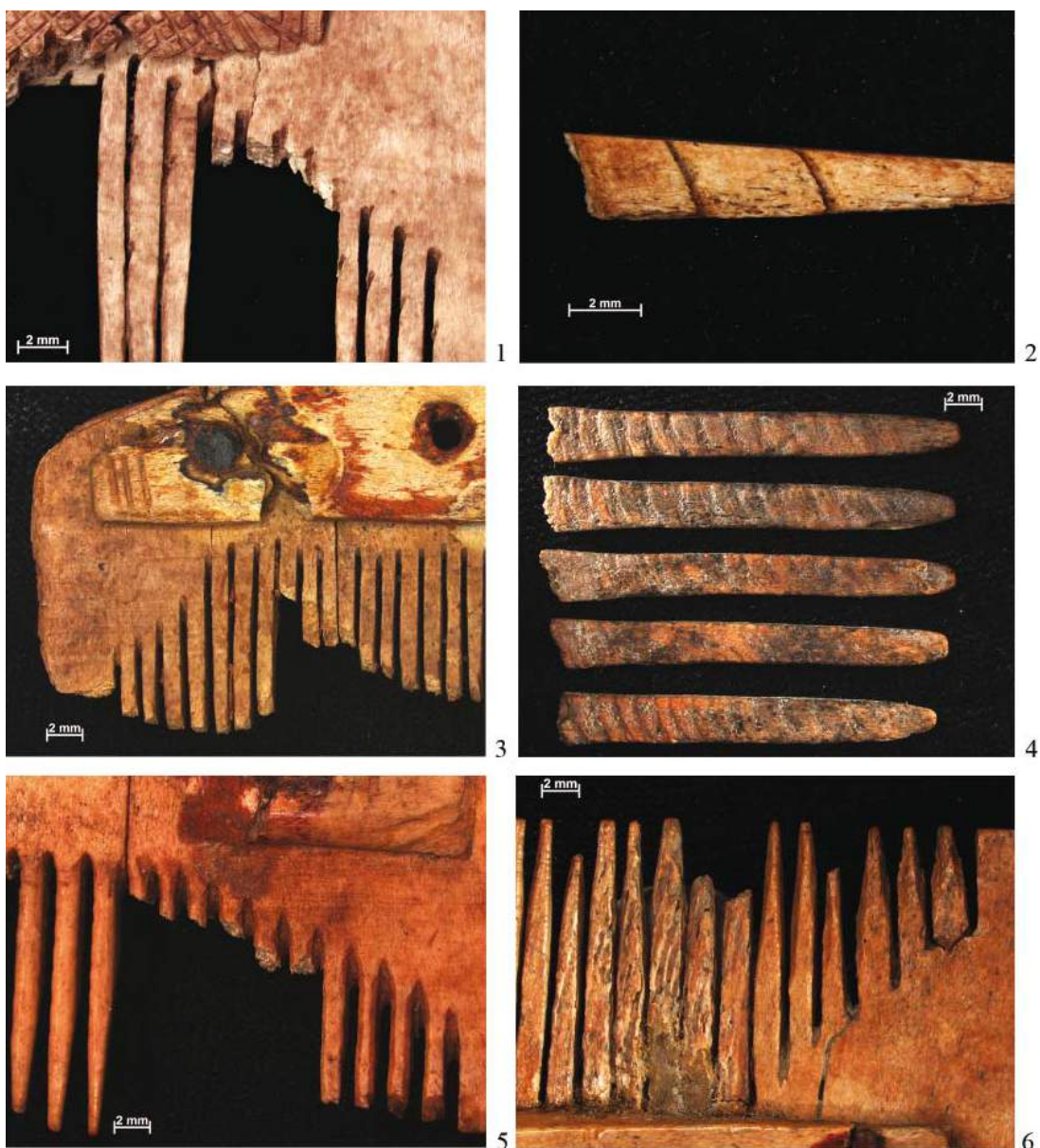


fig. 15. Various modes of how the teeth were cut on the combs from Rákóczifalva 1–2: Cat. no. 20, 3: Cat. no. 19, 4: Cat. no. 5, 5: Cat. no. 8, 6: Cat. no. 10

starting point, I distinguished one larger and several smaller craftsmanship-technological groups among the Rákóczifalva combs (Table 2).

The primary criteria were the phases of the *chaîne opératoire*, the characteristic traits of how the teeth were cut and traces of polishing following the assembly of a comb, while the secondary ones were the technique and composition of the decoration (whether one or both sides were adorned) and the quality of the craftsmanship. However, the technical traits of some combs differed to the extent that they could not be assigned to any one group. This is understandable, bearing in mind that most of these combs were singular pieces in terms of their form, whose local manufacture is uncertain. The technological traits are listed in detail in Tables 1–2. In the lack of studies offering a similarly detailed description of combs, only a broad outline of the possible connections between the technological groups can be offered here.

The most uniform and largest group is made up of the Gepidic-period combs with stab-and-drag decoration (*Cat. nos 5 and 10–15*, and, tentatively, *Cat. nos 5 and 17*). Most of the combs assigned here are double-sided, but the group also includes a single-sided short comb (*Cat. no. 15*) and a long comb (*Cat. no. 5*). With the exception of the single-sided long comb, the front plate bears a stab-and-drag ornamentation, while the back plate is plain. The cross-section of the side plates varies and it seems likely that the form of the plates essentially depended on the available raw material. One shared trait of the combs is that the tooth plates were shaved down towards the edges and polished after riveting. The teeth were cut from one side, from the front. The saw left angled marks that were rarely polished individually and the teeth retained their rectangular cross-section. The combs were ornamented at the end of the manufacturing process, after the plates had been riveted together and after the teeth had been cut. *Cat. nos 1–2* are assigned to this group tentatively owing to their fragmentary condition. *Cat. nos 10 and 17* are similar, but follow a slightly different workshop tradition: they were ornamented before the comb was assembled. *Cat. no. 17* has an identical ornamentation on both sides. The technical difference is all the more striking since analogies to the decorative motifs of this comb come from a different cultural milieu (see above).

This tradition can be regarded as a specifically Gepidic comb-making tradition, which in view of the parallels to the decorative designs and the grave inventories is only attested in the Middle Tisza region. The group is uniform to the extent that we may tentatively assume a local production. It is closed in the sense that there is a close correlation between technological traits and ornamentation since, with the exception of the Sarmatian comb with stab-and-drag ornamentation (*Cat. no. 8*), all the combs with a stab-and-drag design were assigned here. The Hun-period connections of *Cat. no. 17* too support the emergence of the technique on the Hungarian Plain, as does the fact that the practice of cutting the teeth from the front side can also be noted on the late fourth–early fifth-century comb found on the Sarmatian settlement at Békéscsaba-Felvégi legelő.<sup>406</sup>

Two Gepidic combs (*Cat. nos 4 and 9*) have an incised ornament, but the decoration of the front and the back plates differs. In the case of *Cat. no. 9*, the teeth were cut from two directions and the cut marks are rougher than in the case of the combs in the previous group. The ornamentation was perhaps created with a knife. Judging from the finds published from other sites, this poor quality and poor craftsmanship represents the average quality of Gepidic combs across the entire settlement territory. It is noteworthy that the combs from Rákóczifalva include both a single-sided and a double-sided piece made using this technique.

*Cat. no. 18*, a comb with end profiling, bears the greatest resemblance to the above among the other combs with incised decoration. The teeth on this exemplar was also cut from two sides and similarly to *Cat. no. 9* (and *Cat. no. 20*), the ornamentation was added before the comb was assembled. However, the tooth plates of *Cat. no. 18* are polished, the saw marks resemble those on the better-quality pieces with stab-and-drag decoration and the incised pattern too was apparently made with a finer tool. This comb, probably a Hun-period western product, represent a transition between the different Roman and Gepidic-period combs in a technological sense too.

The parallels to *Cat. no. 20*, recovered from a Hun-period burial, suggest that it was a provincial product, as indicated by the marks reflecting the use of a special saw, a unique trait in the Rákóczifalva assemblage. Similarly to the Gepidic combs with stab-and-drag decoration, but unlike the Sarmatian combs, *Cat. no. 20* is only ornamented on one side, on the front plate. The incised design was created before the comb was assembled, similarly to *Cat. nos 10 and 17*, both pieces with stab-and-drag decoration. The careful polishing of the teeth is best matched by *Cat. no. 8*, recovered from a Sarmatian settlement feature. The technique of how the teeth were cut is unique in the assemblage: the round-sectioned teeth were all polished individually. The two differing techniques employed in the manufacture of these good-quality combs with pleasing proportions (*Cat. nos 8 and 20*) are an eloquent

<sup>406</sup> Medgyesi – Pintye 2006 fig. 17.



illustration of the Sarmatian and Roman precursors from which Gepidic comb-makers drew their inspiration.

Another comb with incised decoration (*Cat. no. 19*) has a small triangular side plate. It differs to some extent from *Cat. no. 20* found in the same burial, but it also shares some technical details with it. Similarly to *Cat. no. 18*, a comb with end profiling and the later Gepidic combs with incised decoration, the teeth were cut from both sides, but the teeth are much more finely worked. The tooth-plates were not polished, similarly to *Cat. nos 18* and *20*, both early singular combs, and the later Gepidic combs with incised designs. In sum, it points towards the early pieces also in terms of its technology; it is of a far superior quality than the Gepidic combs. The single one-sided comb that resembles it in terms of its craftsmanship is *Cat. no. 7*, the fragment of a curved-backed Gepidic-period comb.

*Cat. no. 6* represents another singular piece in the assemblage both regarding its ornamental technique and its form, and its origin from a western, Langobardic territory is also indicated by its technique. The polishing of the tooth plates is the most telling trait: the rib across the comb and the polishing performed before riveting is quite unique among the Rákóczifalva combs (*fig. 16*). Similarly to most other Hun-period combs, the teeth were cut from two sides and, unlike the Hun-period combs and the Sarmatian exemplar in the assemblage (*Cat. no. 8*), the teeth were carefully polished.

The delicate saw marks on the teeth of *Cat. no. 16*, a comb fragment from an infant burial, assign this exemplar to the category of more finely made combs. The arched-backed Sarmatian-period comb cannot be assigned to any category based on these criteria.

The polishing of the tooth plates and the cutting of the teeth are the most important technical traits in the Rákóczifalva assemblage. The strong polishing of the teeth in the Gepidic tradition can probably be derived from the Pannonian tradition or perhaps directly from the Sarmatian tradition, as also evidenced by the combs from this site. The angled saw marks attest to the use of a relatively sophisticated tool. Combs on which there is no or but little indication that the teeth had been polished are generally good-quality early Sarmatian- or Hun-period pieces or the poorest-quality Gepidic exemplars. In the case of the former, this work phase was probably unnecessary, while in the case of the latter, there was either no requirement for a fine, even surface, or the necessary tools were not available. There is no correlation between quality and the creation of the ornamental design before or after riveting in this material. The creation of the decoration before the plates were riveted together can be noted both on pieces with an incised design (*Cat. nos 18, 20* and perhaps *9*) and a stab-and-drag pattern (*Cat. nos 10* and *17*).

In sum, the technological traits confirmed the cultural contacts outlined by the study of form and ornamentation. At the same time, they add a host of finer details to how the formal and technological groups of Gepidic combs evolved from the local Sarmatian and the Pannonian tradition. An “eastern Germanic” tradition cannot be demonstrated in this assemblage, a point already foreshadowed by the examination of the combs’ formal traits.

### Conclusion

The antler combs recovered from Sarmatian contexts reflect contacts both with Pannonia and the eastern barbarian lands. The following point was made fifteen years ago in the monographic study of Pannonian bone art: “If the survival of Sarmatian workshops on the Hungarian Plain could be proven alongside the use of double-sided combs among the Sarmatian population of Iranian ancestry, the adoption of this comb type and its ornamental motifs could be located to the Hungarian Plain. However, we do not have a single shred of evidence for this!”<sup>407</sup>

Since then, several Sarmatian comb workshops have been uncovered, but their survival into the ensuing period remains uncertain, as does the date of the abandonment of the

<sup>407</sup> *Bíró 2000b 89.*



fig. 16. Transverse rib on a single-sided short comb (*Cat. no. 6*) from Rákóczifalva

Sarmatian settlements. At the same time, the survey of the double-sided combs brought to light on Sarmatian settlements clearly proves the type's use on the Hungarian Plain during the Sarmatian period.<sup>408</sup> The continuous use of double-sided combs is also confirmed by the Rákóczifalva assemblage, which also offers further evidence that stab-and-drag patterns had been used for decorating double-sided fine-toothed combs already during the late Sarmatian–Hunnic period on the Hungarian Plain, while this decoration is rarely encountered in Pannonia during the Roman period and is wholly untypical during later periods. This would indirectly imply the survival of Sarmatian-period comb workshops, although further evidence is obviously needed for conclusively resolving this issue.

The combs from Rákóczifalva also shed light on the direct contacts with the province (double-sided and single-sided forms with end profiling and certain incised decorative patterns on double-sided combs), which have not been attested in other Sarmatian contexts on the Hungarian Plain, the implication being that the fifth-century, i.e. Hun-period cultural contacts differed from those of the Sarmatian period. The western parallels dating from before the Gepidic period raise the issue of a possible Germanic origin. However, the Rákóczifalva assemblage does not reflect strong, direct ties with any of the Germanic cultures of the Imperial period – this assemblage rather indicates the adoption of impacts from the province and links with the Hun-period cultural complex of the Danube region rather than with the earlier neighbouring peoples.

Regarding the parallels with the finds from along the *limes*, it must be noted that the distribution of cemeteries with burials containing antler combs is uneven. The cited parallels come from the northern side of the *limes* and from north-western Valeria, from the regions where the highest number of combs has been found.<sup>409</sup> However, the distribution of analogous finds from along the *limes* does not mean that these types were not used in the province's interior. At the same time, I did not find truly good parallels to the Rákóczifalva combs along the *limes* section south of Intercisa, despite the fact that combs were frequently deposited in the provincial burials.<sup>410</sup>

Among the combs recovered from the burials scattered across the Rákóczifalva settlement, two exemplars (deposited in two burials) indicate a clear connection with Pannonia. One comb could not be assigned to a particular type, the other two had Gepidic connections (a double-sided comb with stab-and-drag ornamentation and a single-sided long comb with an incised design). The graves thus date from different periods, but they do not, in themselves, prove the continuity of the settlement's occupants because the connections of the combs recovered from Hun-period burials and the Gepidic graves differ.

<sup>408</sup> *Bíró 2000a* 178, and *Bíró 2012* 15, had suggested a possible Sarmatian mediation.

<sup>409</sup> *Bíró 2002* 60. The concentration of combs along the *limes* can also be noted along the Norican Danube section, see *Ruprechtsberger 1999* 48–49.

<sup>410</sup> *Ibid.*

There are some striking and baffling similarities between the Pannonian and Gepidic combs, principally among the incised decorative motifs of the simple double-sided combs.<sup>411</sup> A convincing explanation for these similarities is still lacking. Considering also the combs from Sarmatian settlements, the links between the double-sided Pannonian and Gepidic combs, between both decorative techniques (incised and stab-and-drag decoration), can be clearly identified – which, however, does not imply a direct connection between the two, although the assemblage from Rákóczifalva certainly reflects the impact of western cultural impulses in the Hungarian Plain during the Hunnic period.

One salient paradox concerns the Roman and Germanic ancestry of certain artefact types. Similarly to earlier scholarship, recent studies have also invoked the westward migration of Germanic peoples as an explanation for the appearance of certain comb types in the west. For example, Maroszentanna–Chernyakhov-type combs traditionally play a prominent role in ethnic attribution and are generally associated with Germans.<sup>412</sup> Triangular-backed combs found near the *limes* are usually identified as Germanic,<sup>413</sup> while arched-backed combs found along the Rhineland *limes* are interpreted as direct evidence for the Alemannic migration.<sup>414</sup>

In the case of Pannonia, however, the same types are regarded as having evolved in a Roman milieu following the realisation that there are but a handful of eastern analogies to particular types.<sup>415</sup> This is even more striking in the case of the Hungarian Plain than of Pannonia, given that truly good parallels to the “eastern” types are either found west of the region or that the greatest abundance of the types in question can be found there.

It must again be emphasised that one of the most widespread comb types of the Hunnic period in the Carpathian Basin, namely the three-layered and the composite lobed-backed Maroszentanna–Chernyakhov-type combs, which was also adopted by the Pannonian population, is not represented among the combs from Rákóczifalva, again confirming the salient tendency noted earlier that these were not current on the Hungarian Plain. Thus, we can hardly speak of a dominance of eastern cultural influences regarding the origins of the new comb types and ornamental motifs appearing on the Hungarian Plain at the close of the Roman period – what we see can more aptly be described as the irradiation of an increasingly barbarised antique world and the blurring of previous boundaries. In addition to the pieces from Rákóczifalva, the various comb types from the Kisvárda, Tarnaméra and Szeged-Kundomb burials can also be assigned here.

This would also imply that the combs regarded as Germanic types to the west of the Carpathian Basin have no ethnic relevance, although – obviously – Germanic peoples living on the Hungarian Plain could have used Pannonian combs. The bell-shaped comb from the Tiszalök burial reflects an entirely different cultural trajectory since this comb can indeed be regarded as deriving from the east. However, a Germanic origin cannot be assumed in this case either because the burial rite and the grave goods were not of the type that are generally interpreted as Germanic (principally the north to south orientation and the spouted jug with smoothed-in decoration). Another important point is the presence of a particular, probably regional comb type (the so-called Békéscsaba type) during the same period on the Hungarian Plain which to date has only been reported from Intercisa in the regions beyond the Hungarian Plain (*fig. 8*).<sup>416</sup>

<sup>411</sup> *Bíró 2000* 86, 89.

<sup>412</sup> *Riha 1986* 20; *Szabó 1991* 180; *Bíró 2000* 178; *Bíró 2000a* 177; *Jiřík 2007* 124–127, 132; *Böhme 2008* 364–369; *Pintye 2009* 184; *Pintye 2011* 76; *Tejral 2011* 227–228, 387.

<sup>413</sup> *Gilles 1981* 336 (even though he notes that the animal-headed variant is only known from Roman territory); *Petković 1995* 129; *Tejral 2011* 145.

<sup>414</sup> *Riha 1986* 20; *Schach-Dörge 1994* 675–680. For a counter-example regarding combs with end profiling, see *Boose 1985* 297–300, according to whom these were produced in Gaul, even in the case of the piece found in the Germanic burial at Graben on the river's right bank.

<sup>415</sup> *Vágó – Bóna 1976* 198–201; *Ottományi 2001* 54–55; *Lamióvá-Schmiedlová 1964* 201, voiced similar doubts in the case of the eastern Slovakian combs.

<sup>416</sup> *Medgyesi – Pintye 2006*; *Pintye 2009* 181–182.

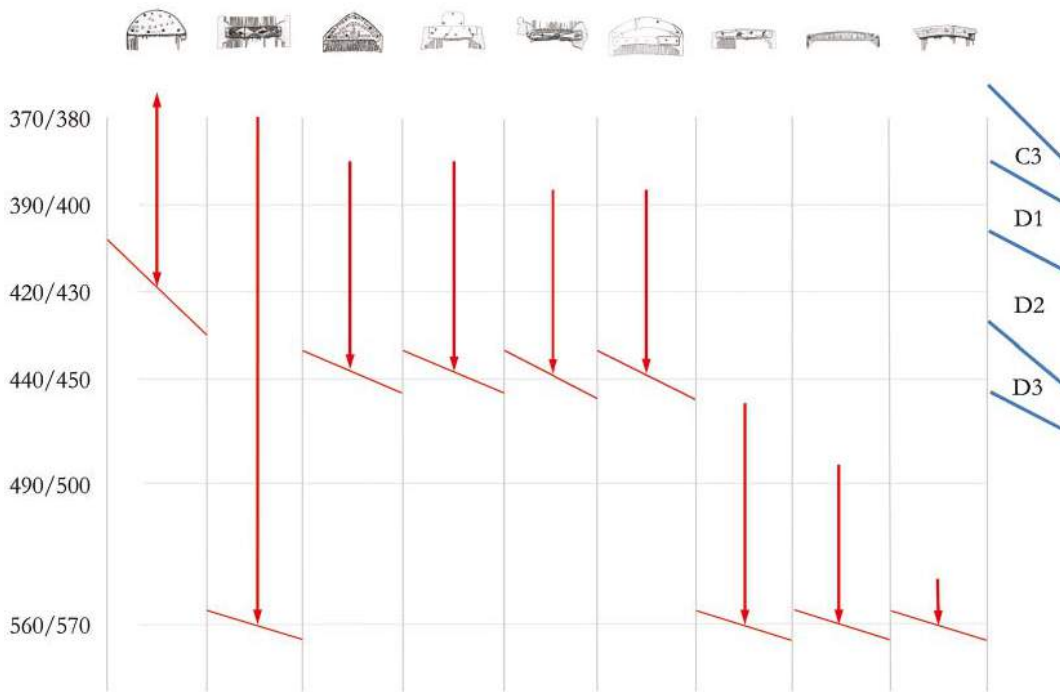


fig. 17. Chronology of the comb types discussed in this study in eastern Hungary

Applying the conventional ethnic interpretation to the situation on the Hungarian Plain would practically imply that there were no Germanic peoples in this region before the later fifth century. It seems more likely that this interpretation is simply erroneous. The sources paint an entirely different picture of the military turmoil in the later fourth century. It seems unlikely in the light of the written sources that the large-scale campaigns and population movements would have bypassed the Hungarian Plain, and it is similarly inconceivable that the Hungarian Plain had not been inhabited by a multi-ethnic population during the region's Hunnic overlordship. It seems more feasible that similarly to other small finds, combs were not ethnic markers either on the Hungarian Plain or in Roman areas.

Obvious differences can be noted between the way combs were used in the Sarmatian lands and in the neighbouring barbarian cultures of the Imperial period, and these differences persisted into the Hunnic period, as shown by the comb types and their decorative techniques. The fact that certain artefact types were not adopted from the neighbouring territories simply means other choices and other considerations in the selection of material culture on the Hungarian Plain than in the neighbouring barbarian cultures of the Imperial period and in the Roman province. Further research is needed for adding finer details to this picture – what seems certain is that a purely ethnic model can be rejected.

The nature and composition of the find assemblages from the Hungarian Plain indicate that direct eastern impacts on the emergence of various types and decorative styles in the Middle Danube region during the Hunnic period played a less decisive role than previously assumed and that the cultural transformation in the Danubian regions played a more prominent role. The transformation of the material culture under eastern impacts and fresh provincial influences was followed by further regional development on both sides of the *limes*. Naturally, this also implies that the further west we look, the greater the likelihood that a particular type will be regarded as having an eastern ancestry. While an interpretation along these lines can hardly be regarded as being wholly groundless, a simplistic ethnic attribution is no longer acceptable.

The high number of double-sided combs in the sixth-century Gepidic material demonstrates the continuation of the previously barbarised antique traditions (fig. 17). The



popularity of stab-and-drag patterns provides ample proof that these traditions can be derived from the Pannonian and Sarmatian traditions, and that independent workshop traditions with regional variations had also evolved in the Tisza region. Additionally, a few new types and decorative techniques also made their appearance, which similarly to the situation in the Hunnic period, shed light on western and southern Pannonian contacts. While these indicate direct links with the Langobardic lands, the imitation and local production of western forms can also be plausibly assumed.<sup>417</sup>

### *Catalogue*

#### 1. Building 5/22/28, date: Gepidic

Fragment of a double-sided antler comb. Two plain side plate fragments and a single tooth-plate between them (L. 2 cm). The teeth are broken, the two edges are secured with two iron rivets and traces of a third rivet can be made out on the edge of the longer side plate. The toothed portion of the tooth plate is lightly polished. Judging from the tool marks, the teeth were cut from one side after riveting. Evenly spaced tooth cuts can be seen along the edge of one side plate, while the other plate remained undamaged. Differentiated teeth. Medium quality. Perhaps from the same piece as *Cat. no. 2*.

L. 5.2 cm, H. 2.5 cm, Th. 1.2 cm. Inv. no. DJM<sup>418</sup> 2007.3.22.100 (*fig. 18*).



#### 2. Building 5/22/28, date: Gepidic

Fragment of a double-sided antler comb, an intact end plate with a broken iron rivet. The position of the side plates can be made out on both sides: the plate is slightly thicker in its middle. The plate is evenly polished towards the teeth and the comb's short side. The tool used for cutting the teeth left angled marks "in front" and straight ones on the "back", indicating that the teeth on the end plate had been cut from the same side. No saw marks can be seen on the surface of the moderately well preserved teeth, although it is possible that they had been polished individually. Medium craftsmanship. It was perhaps part of the same comb as *Cat. no. 1*.

L. 2.8 cm, H. 4.8 cm, Th. 0.3 cm. Inv. no. DJM 2007.3.22.101 (*fig. 19*).

<sup>417</sup> This paper was supported by a grant from the Hungarian Scientific Research Fund (NKFI/OTKA NK-111-853). Figures 10–16 were made using a Zeiss SteREO Discovery V12 stereo microscope in the Laboratory for Diagnostics and Non-destructive Testing of the Institute of Archaeology of the Research Centre for the Humanities of the Hungarian Academy of Sciences. I am grateful to Anett Mihácz-Pálfı for her help in preparing the images. The drawings were made by Péter Posztobányi, the photos (figs 18–37) by Péter Hámori.

<sup>418</sup> Damjanich János Museum, Szolnok.



3. Pit 5/26/40, date: Sarmatian

Two side-plates of an arched-backed antler comb. The two plates are slightly damaged: one corner with the outermost rivet hole broke off on both plates. The comb has a slightly asymmetrical form, but the two plates fit to each other perfectly. One of the seven rivets is on top, the remaining form a row roughly in line with the side. One rivet is preserved on one plate. The diameters of the rivet holes differ: 0.3–0.4 cm on one plate and 0.4–0.5 cm on the other. Both plates are plain.

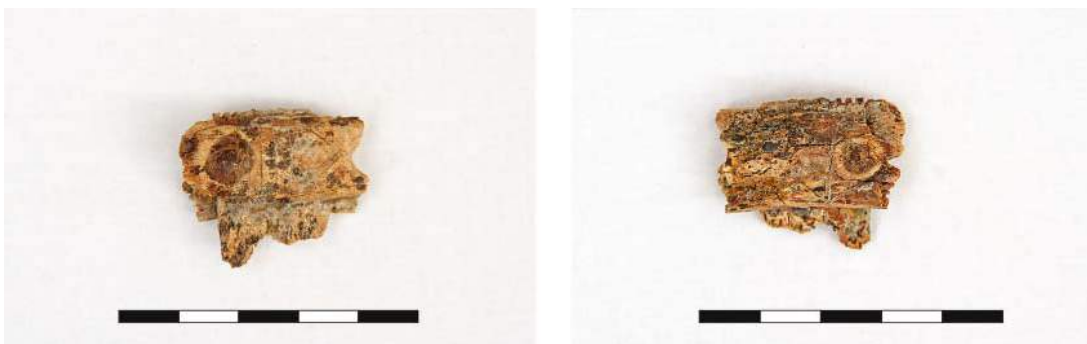
L. 9.1 cm, 9.6 cm, H. 3.8–3.9 cm, Th. 0.3 cm. Inv. no. DJM 2007.3.26.2 (fig. 20).



4. Building 5/28/34, date: Gepidic

Small fragment of a double-sided antler comb. Two broken side plates with differing decoration and a broken tooth plate with all the teeth missing between them. The tooth cuts barely extended to the side plates (there is a fine mark in one case). The ornamental design is composed of simple incised lined: a saltire cross motif combined with four widely spaced vertical lines and a rivet beside them on one side and a lozenge with a line in the centre on the other (probably the two halves of two saltire cross motifs with a line separating them). A poorly made, coarse, provincial product.

L. 3.1 cm, H. 2.6 cm, Th. 1.4 cm. Inv. no. DJM 2007.3.28.3 (fig. 21).



## 5. Building 5/61/135, date: Gepidic

Two larger fragments of a single-sided long antler comb. The central plate and one of the end plates are missing. The body expands into a curve slightly towards the centre. Three pairs of tooth plates and six larger rivets survive; the teeth are fragmented. The missing end plate was secured with three vertically arranged smaller rivets. The side plates do not extend to the edge of the end plate. The area of the side plates is thicker, the edges of the comb are polished. The teeth were cut from one side, the more profusely ornamented front side; the tooth cuts did not affect the back plate. The teeth are relatively coarse and thick, and the saw marks can be clearly made out on their sides. The ornamentation was added after riveting and after the teeth were cut, i.e. at the end of the manufacturing process. Both side plates bear a stab-and-drag design. The two long sides of the front plate are bounded by a pair of lines, the upper ones fairly straight, the lower ones more wavy. The lower pair of bounding lines on the left side were left off. The lower pair on the right side is adjusted to the teeth and the spacing of the marks is different owing to the tooth cuts. The body bears two pairs of irregular wavy lines that terminate before the outermost rivets. The back plate is bounded by a pair of leftward slanting wavy lines, the upper pair lower, the lower one higher, enclosing a pair of shorter wavy lines. The composition is adjusted to the rivets. Fine craftsmanship, save for the composition of the front plate.

Total L. 16 cm, H. 4.1–4.5 cm, Th. 1.4 cm. Inv. no. DJM 2007.3.61.381 (*fig. 22*).



## 6. Building 5/61/135, date: Gepidic

Single-sided short antler comb. Slightly damaged, one of the end plates and its rivets are missing, the teeth are broken. The side plates with slightly plano-convex section are secured to the narrow tooth plates with six rivets. The rivets are evenly spaced, the four middle ones are more closely set and form a slight curve. The rivets do not damage the ornamentation. A barely prominent transverse rib extends across the end plate: the tooth plates were aligned precisely to the side plates and the sections underneath the side plates were polished before riveting. The rib designed to reinforce and secure the plates can be clearly made out in the section. Angled tool marks can be made out at the base of the teeth on both sides, indicating that the teeth were cut from both sides. The tooth cuts extend slightly to the side plates on both sides. The side plates are decorated by a bundle of three incised lines running parallel to the edges. The lines are wide and flat-bottomed. Good quality piece of good craftsmanship with a pleasing composition.

L. 9.9 cm, H. 3.4–3.8 cm, Th. 0.9 cm. Inv. no. DJM 2007.3.61.380 (*fig. 23*).



## 7. Feature 5/85/128, date: Gepidic

Fragment of a single-sided curved-backed antler comb of which the middle section of one side plate and a tooth plate with two teeth survives. There is a slight break in the upper and lower curve of the side plate. Remnants of rivet holes survive on the side plate and the edge of the tooth plate. The green stains suggest the use of a bronze rivet. The two fragments can be exactly fitted to each other based on the matching position of the rivet holes, the line of the upper curve and the teeth. The slightly oblique teeth are evenly spaced. It seems likely that the teeth were cut from both sides; the saw marks can be clearly made out on the sides of the teeth. Plain. Good quality piece.

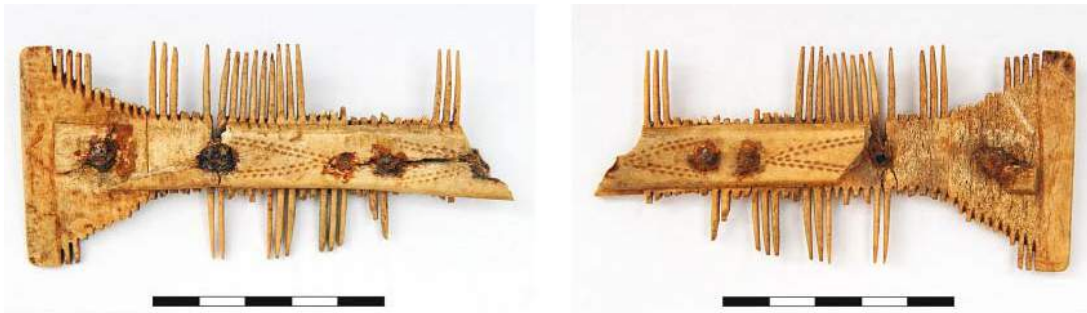
L. 6.6 cm, H. 3.3 cm, Th. 0.5 cm. Inv. no. DJM 2007.3.85.80 (*fig. 24*).



## 8. Pit 5/195/285, date: Sarmatian

Double-sided antler comb. Damaged, both side plates are broken; the end plate and most teeth are missing. The thick side plates are trapezoidal in section. The tooth cuts extend slightly to the side plates, but to one edge only of each. The end plate has an even thickness and was polished slightly only at the corners. The tooth cuts are angled on one side and straight on the other, suggesting that the teeth had been cut from two sides (probably from one side first, after which it was turned over). This is most conspicuous in the case of the two end plates with graduated teeth. The central tooth plates were made similarly, but the differently cut sides alternate. The edges of the side plates are indicated by polishing marks on the third and fifth tooth plate from the end. The side plates cover the baseline in some spots, indicating that the teeth of the central tooth plates had been cut before riveting. The cut marks on the side plate do not coincide with the spacing of the teeth, suggesting that the tooth plates had been secondarily re-used or that the teeth had been cut before riveting. The teeth were polished individually; no saw marks are visible. The ornamentation was set between the rivets securing the tooth plates: a pattern of stab-and-drag double horizontal chevrons. The tips of the decorative marks point towards the corners of the chevrons. Despite the technological traits described above, the comb is of excellent craftsmanship.

L. 10.5 cm, H. 4.8 cm, Th. 1.1 cm. Inv. no. DJM 2007.3.195.174 (*fig. 25*).



## 9. Grave 5/266/367, date: Gepidic

Single-sided long antler comb. About one-half is lacking, several teeth broke off. Six of the originally ten or eleven tooth plates and four of the probably seven iron rivets survive. The side plates are rectangular with a slightly expanding edge in the middle. The tooth cuts extend to the lower edge of the ornamental frame on both sides. The tooth plates are poorly preserved; judging from the side plates, the teeth were cut from two sides. The teeth were polished individually and unevenly, and there are coarse sawing/filing marks at the base of the teeth in the unpolished areas. The side plates are decorated with two different incised patterns. One plate (of which the left side survives) is bounded by a pair of lines along the long sides and has bundles of five vertical lines



in-between. Part of a bundle of three diagonal lines is visible in the middle. The other plate (of which the right side survives) is decorated with X motifs of four and five bundles of lines. The bundles of three to five lines were made with a simple tool leaving a single mark, the use of a double-bladed saw can be rejected. Poor quality. L. 8.7 cm, H. 4.1 cm, Th. 1.1 cm. Original L. *cca.* 15 cm. Inv. no. DJM 2007.3.266.3 (*fig.* 26).



10. Building 8/37/53, date: Gepidic

Double-sided antler comb. Slightly damaged, one edge of the front side plate and a few teeth are missing. The seven tooth plates are secured with five iron rivets. The end plates have finely polished and evenly graduated teeth. Both side plates are thick with a trapezoidal section. The teeth were cut from the front side after riveting: the saw marks strongly cut into the front plate, while the back plate is barely affected. The ends of the teeth were polished; the saw marks can be clearly made out on the sides. The front plate bears an incised and stab-and-drag design, the back plate is plain. The front plate is decorated (from left to right) with five lightly incised lines, a stab-and-drag diagonal line, a bundle of four incised lines, a stab-and-drag wavy line enclosed within a stab-and-drag frame and another bundle of four lines, probably followed by diagonal lines and ending in a bundle of vertical lines. Medium quality.

L. 12.5 cm, H. 4.9 cm, Th. 1.2 cm. Inv. no. DJM 2007.4.37.5 (*fig.* 27).



11. Building 8A/185/251, date: Gepidic

Fragments of a double-sided comb: a side plate and four tooth plates, the teeth are missing. The form of the side plate can be made out on the end plate fragment; the edges of the plate were polished. The polished surface of the central plates extending downward from the edge of the side plate can be made out on the back of the plates. The teeth were cut after riveting. The comb had differentiated teeth: the surviving side plate fragment fits to side with more finely cut teeth. The teeth were probably polished individually. The side plate split lengthwise. Only one side is decorated with a low stab-and-drag double wavy line combined with a pair of stab-and-drag vertical lines. The plates and the ornamentation are of good craftsmanship.

Total L. of fragments *cca.* 7 cm, H. 4.1, Th. 1.1 cm. Inv. no. DJM 2007.7.185.55 (*fig.* 28).



12. Grave 8A/206/275, date: Hun-period/Gepidic

Double-sided antler comb. The corners are damaged and the teeth are missing, the front plate is almost intact, the back plate is fragmented. The five tooth plates are secured by four iron rivets. Despite its poor preservation, the filing of the tooth plates to make them flush with the side plates can be clearly made out. The teeth were cut from one side, from the front, after riveting. The tooth cuts extend to the front plate, but not to the back plate. The front plate bears a stab-and-drag pattern, the back plate is plain. Judging from the design that avoids one of the outermost rivets, the plate was ornamented after riveting. The front plate is decorated with a pair of stab-and-drag wavy lines on top and at the bottom. Good craftsmanship, but very poorly preserved.

L. 10.9 cm, H. 2.9, Th. 1 cm. Inv. no. DJM 2007.7.206.1 (*fig. 29*).



13. Building 8A/348/426, date: Gepidic

One half of a double-sided antler comb. The greater portion of the front plate is missing; four tooth plates and two iron rivets have survived. The front plate is rectangular, the back plate is slightly plano-convex in section. The line of the side plate can be made out on the tooth plates in spots where they were left unpolished. The end plate has a diagonal corner. The comb has differentiated teeth, coarse on one side and finer on the other. The teeth were cut from the front side after riveting. The saw marks extend to the front plate, but not to the back plate. The front plate bears a delicate stab-and-drag pattern, the back plate is plain. The front plate is decorated with a pair of stab-and-drag symmetrically curving wavy lines on top and at the bottom. Medium-quality craftsmanship, although the decoration is finely executed.

L. 6.6 cm, H. 4.8 cm, Th. 1.2 cm. Inv. no. DJM 2007.7.348.1 (*fig. 30*).



## 14. Building 8A/358/436, date: Gepidic

Fragmented double-sided antler comb. One-half of the front plate is missing, the back plate is almost intact. The five narrow tooth plates are secured with five iron rivets. The line of the side plates can be clearly made out on both sides of the central plates and the end plates, as can the area up to which the tooth plates were polished. The teeth were cut from one side, from the front, after riveting. The saw marks extend to the front plate, but not to the back plate. The comb has differentiated teeth. The teeth were polished individually. The front plate bears a delicate stab-and-drag pattern composed of a pair of zig-zag lines on top and at the bottom, the back plate is plain. Good quality piece with pleasing proportions.

L. 9.4 cm, H. 4.3 cm, Th. 1.1 cm. Inv. no. DJM 2007.7.358.1 (*fig. 31*).



## 15. Building 8A/367/446, date: Gepidic

Single-sided short antler comb. The front plate is slightly damaged, the back plate is fragmented and some teeth are missing. The five tooth plates are secured with four rivets. The side plates do not extend to the edge of the end plates. The tooth plates were not filed flush with the side plates, not even on the left side of the front plate, where the horizontal line indicating the boundary of the polished area extends to the edge of the plate. The teeth were cut from one side, from the front. The teeth have a square section and are widely spaced. The saw marks extend to the front plate, but not to the back plate. The front plate bears a delicate stab-and-drag pattern, the back plate is plain. The front plate is decorated with a pair of low wavy line along the top and bottom edges. The pattern avoiding the right rivet suggests that the decoration was added after riveting. Good quality piece.

L. 11.5 cm, H. 5.5 cm, Th. 1.4 cm. Inv. no. DJM 2007.7.367.1 (*fig. 32*).



## 16. Grave 8A/382/465, date: Hun-period/Gepidic

Fragments of an antler comb. A rectangular corner fragment of an end plate and eleven tooth fragments. Fine saw marks can be made out on the sides of the teeth. The type is uncertain, the fragments could equally come from a one- or double-sided comb. The short teeth suggest that the fragments originate from a “child’s comb” deposited in an infant burial.

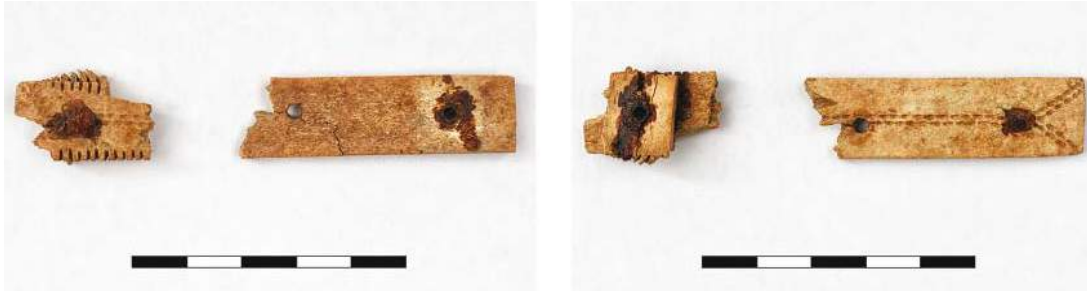
Diam. of end plate 1×1.4 cm, L. of teeth 0.7–1.2 cm. Inv. no. DJM 2007.7.382.1 (*fig. 33*).



## 17. Pit 8A/523/625, date: Hun-period/Gepidic

Fragments of a double-sided antler comb. End fragments of the two side plates, one with a riveted tooth plate fragment corroded to it, and several tooth fragments. The longer side plate retains a rivet and a rivet hole. The side plates were decorated before riveting, as shown by the middle rivet hole. The teeth were cut from one side: the cut marks extend to the edge of the shorter side plate fragment (“front plate”), but not to the longer “back plate”. The two plates bear an identical pattern: a pair of stab-and-drag lines branching towards the corners from the rivet. Good quality, finely crafted piece.

L. 5.1 cm, H. 1.8 cm, Th. 1.1 cm. Inv. no. DJM 2007.7.523.1 (*fig. 34*).



## 18. Grave 8A/670/799, date: Hun-period

Double-sided antler comb with profiled ends. The corners broke off save for one, the teeth have only survived on one side. The four tooth plates are secured with four iron rivets. The thick side plates are trapezoidal in section. The end plates are decorated with end profiling: a lobed centre from which the sides curve to the plate's corners. The line of the side plates can be made out on both sides of the tooth plates where they were not polished. Riveting was performed after ornamentation, followed by the cutting of the teeth, performed from two sides. The tool left angled marks on both sides at the base of the teeth. The saw marks extend to the side plates on both sides. Angled saw marks can be made out on the teeth, which were probably polished individually. The two side plates bear an identical design of a pair of intersecting diagonal lines resembling a saltire cross, bounded by a bundle of four lines on the short sides and a single incised line along the long sides, the latter underlying the saw marks extending to the plate. Medium quality craftsmanship.

L. 11.5 cm, H. 5.5 cm, Th. 1.4 cm. Inv. no. DJM 2007.7.670.1 (*fig. 35*).



## 19. Grave 8A/697/826, date: Hun-period

Small, single-sided, triangular-backed comb. Almost intact; one side plate bears strong traces of corrosion, the teeth are broken. The side plates have a low triangular form with slightly convergent sides. The five small tooth plates are secured with five symmetrically placed iron rivets. The tooth plates are slightly shaved down. The teeth were cut from both sides after riveting, but only extend to the side plate on one side. Angled saw marks can be made out on the teeth, the teeth are very closely spaced and only their tips were slightly polished. It has an identical ornamentation on both sides, which was probably added after riveting. The corners beside the outermost rivets are decorated with incised bundles of three lines, and a pair of finely incised lines runs along the upper edge. Good quality piece of fine craftsmanship.

L. 7 cm, H. 2.5 cm, Th. 1.4 cm. Inv. no. DJM 2007.7.697.1 (*fig. 36*).

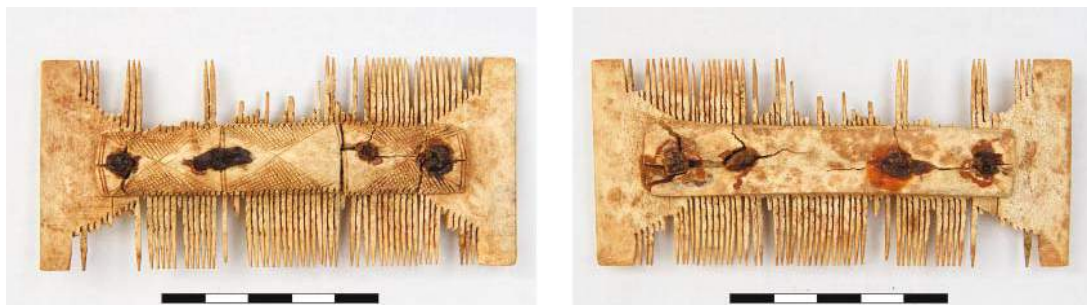




20. Grave 8A/697/826, date: Hun-period

Double-sided antler comb. Almost intact, save for a few missing teeth. The front plate is triangular in section, the back plate is flat. The seven narrow tooth plates are secured with four rivets. The end plates have an even thickness, the tooth plates were not smoothed, merely lightly polished from two directions perpendicular to each other. The front plate was ornamented before riveting, after which the teeth were cut. The teeth were cut from one side, from the front. The saw marks extend to the front plate, the back plate is barely affected (merely on one side, obliquely). The teeth were cut using a different technique than on the other combs: a very fine-toothed saw was used that left three to four fine angled cuts on the teeth. The tool marks all slant rightward if viewed from the tips. The tool may have been a rip saw with teeth bent away from the blade. The front plate is decorated, the back plate is plain. The front plate bears a design of three pairs of triangles with facing tips filled with a dense lattice pattern, with one pair separated by a pair of incised vertical lines, and the two short sides are bounded with a similar pair of lines. Excellent quality.

L. 10.9 cm, H. 4.8 cm, Th. 1.2 cm. Inv. no. DJM 2007.7.697.3 (*fig. 37*).



Cat. no.	Site/Feature/Stratigraphic number	Feature type	Date	Type	Condition	Ornamentation (front plate)	Ornamentation (back plate)	Side plate section
1	5/22/28	Building	Gepidic	Double-sided	Fragment	Plain	Plain	Plano-convex
2	5/22/28	Building	Gepidic	Double-sided	End plate	nd. <sup>418</sup>	nd	–
3	5/26/40	Pit	Sarmatian	Single-sided, arched-backed	Side plates	Plain	Plain	–
4	5/28/34	Building	Gepidic	Double-sided	Fragment	Incised	Incised (different)	Plano-convex
5	5/61/135	Building	Gepidic	Single-sided, long	Slightly damaged	Stab-and-drag	Stab-and-drag (different)	Plano-convex
6	5/61/135	Building	Gepidic	Single-sided, short	Slightly damaged	Incised	Incised (identical)	Rectangular
7	5/85/128	Building	Gepidic	Single-sided, curved-backed	Fragment	Plain	nd.	Rectangular
8	5/195/285	Pit	Sarmatian	Double-sided	Damaged	Stab-and-drag	Stab-and-drag (identical)	Trapezoidal
9	5/266/367	Burial	Gepidic	Single-sided, long	Cca. one-half	Incised	Incised (different)	Rectangular
10	8/37/53	Building	Gepidic	Double-sided	Slightly damaged	Stab-and-drag	Plain	Trapezoidal
11	8A/185/251	Building	Gepidic	Double-sided	Fragments	Stab-and-drag	nd.	Plano-convex
12	8A/206/275	Burial	Hun-period/Gepidic	Double-sided	Intact side plate	Stab-and-drag	Plain	Rectangular
13	8A/348/426	Building	Gepidic	Double-sided	Cca. one-half	Stab-and-drag	Plain	Rectangular/slightly ridged
14	8A/358/436	Building	Gepidic	Double-sided	Damaged	Stab-and-drag	Plain	Plano-convex
15	8A/367/446	Building	Gepidic	Single-sided, short	Damaged	Stab-and-drag	Plain	Rectangular
16	8A/382/465	Burial	Hun-period/Gepidic	Uncertain	Fragments	nd.	nd.	–
17	8A/523/625	Pit	Hun-period/Gepidic	Double-sided	Fragments	Stab-and-drag	Stab-and-drag (identical)	Rectangular
18	8A/670/799	Burial	Hun-period	Double-sided, profiled end	Damaged	Incised	Incised (identical)	Trapezoidal
19	8A/697/826 (grave good no. 1)	Burial	Hun-period	Single-sided, triangular-backed	Slightly damaged	Incised	Incised (identical)	Rectangular
20	8A/697/826 (grave good no. 3)	Burial	Hun-period	Double-sided	Slightly damaged	Incised	Plain	Triangular/rectangular

Table 1. Find contexts and main traits of the Rákóczi-falva combs

<sup>418</sup> Non definable.

Cat. no.	Technological group	Quality	Polishing of tooth plates	Cutting of teeth	Ornamentation	Saw marks on teeth	Length (cm)	Height (cm)	Thickness (cm)	No. of tooth plates	No. of rivets	Rivet material
1	"Gepidic stab-and-drag"?	medium	after riveting	from one side	–	–	(5.2) <sup>419</sup>	(2.5)	1.2	(1)	(3)	iron
2	"Gepidic stab-and-drag"?	medium	after riveting	from one side	–	none, teeth polished	(2.8)	4.8	(0.3)	(1)	(1)	iron
3	–	medium	nd.	nd.	–	–	(9.1; 9.6) ~10.5	(3.8; 3.9)	(0.3; 0.3)	?	7	iron
4	"Gepidic incised"	poor	–	nd.	after riveting	–	(3.1)	(2.6)	1.4	(1)	(2)	iron
5	"Gepidic stab-and-drag"	medium	after riveting; no visible traces at the tooth bases	from one side, from the front	after riveting and tooth cutting	angled saw marks	(6.8 + 7) ~16	4.1–4.5	1.4	(6)8	9	iron
6	"Langobardic"	excellent	before and after riveting	from both sides	?	individually polished, round-sectioned	9.9	3.4–3.8	0.9	6	6	iron
7	–	good	none	probably from both sides	–	angled saw marks	(6.6)	3.3	(0.5)	(1)	(1)	bronze (?)
8	"Sarmatian stab-and-drag"	good	after riveting, very finely	from one side, alternating	after riveting	individually polished, round-sectioned	(10.5)	4.8	1.1	(5)	(5)	iron
9	"Gepidic incised"	poor	none	from both sides	before riveting?	perpendicular sawing marks and coarsely polished	(8.7)	4.1	1.1	(6)	(4)	iron
10	"Gepidic stab-and-drag"	medium	after riveting; no visible traces at the tooth bases	from one side, from the front	before riveting	angled saw marks	12.5	4.9	1.2	7	5	iron
11	"Gepidic stab-and-drag"	good	after riveting	from one side, from the front	?	none, teeth probably polished	(7)	(4)	0.7	(4)	(4)	iron
12	"Gepidic stab-and-drag"	medium	after riveting	from one side, from the front	after riveting	?	10.9	(2.9)	1	5	4	iron
13	"Gepidic stab-and-drag"	medium	after riveting	from one side, from the front	?	angled saw marks	(6.6)	(4.8)	1.2	(4)	(2)	iron
14	"Gepidic stab-and-drag"	good	after riveting	from one side, from the front	?	–	9.4	4.3	1.1	7	5	iron
15	"Gepidic stab-and-drag"	good	after riveting	from one side, from the front	after riveting	angled saw marks	11.4	3.1–3.8	1.1	5	4	iron
16	–	good	uncertain	uncertain	–	angled saw marks				(1)	0	nd.

<sup>419</sup> Values in parentheses indicate the measurements of the surviving fragment(s).

Cat. no.	Technological group	Quality	Polishing of tooth plates	Cutting of teeth	Ornamentation	Saw marks on teeth	Length (cm)	Height (cm)	Thickness (cm)	No. of tooth plates	No. of rivets	Rivet material
17	"Gepidic stab-and-drag" ?	good	after riveting	from one side, from the front	before riveting	angled saw marks	(5.1)	(1.8)	1.1	(1)	(2)	iron
18	"Pannonian"	medium	after riveting	from both sides	before riveting	light angled saw marks, probably polished	11.5	5.5	1.4	5	4	iron
19	"Pannonian"	excellent	none	from both sides	after riveting	angled saw marks	7	2.5	0.8	5	5	iron
20	"Pannonian"	excellent	after riveting, very finely	from one side, from the front	before riveting	angled saw marks with cuts on the tooth sides	10.9	4.8	1.2	7	4	iron

Table 2. Main technological traits and sizes of the Rákóczi-falva combs

APPENDIX  
Éva Ágnes Nyerges: The archaeozoological identification of the antler combs from Rákóczifalva

Cat. no.	Material of the front plate	Material of the back plate	Material of the tooth plates	Remarks
1	tine ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	The spongiosa is visible in the section of the side plates.
2	–	–	beam ( <i>Cervus elaphus</i> )	A small patch of the spongiosa is visible under the side plates (on the side of the tooth plate where less survived of the rivet).
3	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	–	The side plates were made from the antler section where the tine branched off from the beam of red deer as evidenced by the form and the pattern of the spongiosa. Saw marks can be made out on the inner side of both side plates. There are gnaw marks on the plate lacking rivets; since the gnaw marks are only present on one plate, in the area where they had been assembled, the two plates were no longer secured at the time the gnawing occurred.
4	antler (tine?) ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	The spongiosa is visible over an extensive part of the tooth plate.
5	antler (tine?) ( <i>Cervus elaphus</i> )	antler (tine?) ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	Saw marks are visible on both side plates.
6	antler (tine?)	antler (tine?)	beam ( <i>Cervus elaphus</i> )	
7	tine ( <i>Cervus elaphus</i> )	–	beam ( <i>Cervus elaphus</i> )	
8	tine ( <i>Cervus elaphus</i> )	tine ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	
9	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	The form of the back side plate differs from the front one and does not wholly correspond to the line of the tooth plates; they are not symmetrical, and the plate is strikingly narrow in the area of the first two rivets. It is uncertain whether this can be attributed to the original form of the beam or to the manufacturing process.
10	antler (tine?) ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	The spongiosa is visible in the section of the front side plate; saw marks are visible along the edges of the back side plate where it was sawn from the beam; the spongiosa is visible in several spots on several tooth plates.
11	antler (tine?) ( <i>Cervus elaphus</i> )	–	beam ( <i>Cervus elaphus</i> )	
12	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	
13	beam ( <i>Cervus elaphus</i> )	tine ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	The back side plate preserved the curve of the tine; it can no longer be determined whether the corner of the end plate broke off and became worn during use, or whether it had been originally cut obliquely.
14	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	
15	antler (tine?) ( <i>Cervus elaphus</i> )	antler (tine?) ( <i>Cervus elaphus</i> )	beam and tine ( <i>Cervus elaphus</i> )	Saw marks are visible on the side edge of the back side plate where it was sawn from the antler.
16	–	–	beam ( <i>Cervus elaphus</i> )	
17	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	
18	antler (tine?) ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	
19	antler ( <i>Cervus elaphus</i> ?)	antler ( <i>Cervus elaphus</i> ?)	tine and beam (?)	Side plates made from a larger antler; it is uncertain whether the antler came from red deer or another species.
20	tine ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	beam ( <i>Cervus elaphus</i> )	Front plate: the plano-convex section exploited the tine's cylindrical form. Back side plate: saw marks are visible on one end where it was sawn from the beam; patches of spongiosa on the outer surface (differing from the spongiosa on the split surface), perhaps indicating the area where the tine branched off from the beam.

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