

IN THE OSAN THE OS  
USANTÆUSANTÆ  
EUSANTÆUSANT  
ANTÆUSANTÆUS  
EUSANTÆUSANT  
SANTÆUSANTÆU  
EUSANTÆUSANT  
ANTÆUSANTÆU  
NTÆUSANTÆUSA  
USANTÆUSANTÆ  
ÆUSANTÆUSANT  
ANTÆUSANTÆUS  
USANTÆUSANT

EUSANTÆUSANT

39



# ANTÆUS

*Communicationes ex Instituto Archaeologico*

39/2023

*Sigel: Antaeus*



# ANTÆUS

39

*Communicationes ex Instituto Archaeologico*

Communicationes ex Instituto Archaeologico

Distribution of exchange copies by  
the Library of the Institute of Archaeology, HUN-REN Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.

General Editor:

FRIDERIKA HORVÁTH

Executive Editor:

CSILLA ZATYKÓ

Editorial Board:

VIKTÓRIA KISS, BÉLA MIKLÓS SZŐKE,  
MIHAEL BUDJA, CLAUS VON CARNAP-BORNHEIM,  
SIR DAVID M. WILSON

HU ISSN 0238-0218

Desktop editing and layout by Archaeolingua

Printed in Hungary by the Prime Rate Kft.

Cover by H&H Design

## INHALT – CONTENTS

<i>List of Authors</i>	6
<i>Abbreviations</i>	7
<i>Foreword</i>	11
<i>Eszter Melis</i> : Observations about the settlement network in the period between the end of the Early and the start of the Late Bronze Age in northwestern Hungary (Győr-Moson-Sopron County, Hungary)	13
<i>Ágnes Kolláth – Ágnes Kovács – Adrián Berta – Ákos Ekrik – Bianka Gina Kovács – Zsófia Nádai</i> : Complex archaeological research of a Bronze Age hillfort and a medieval village at Székesfehérvár-Börgönd (Hungary)	53
<i>Péter Langó – Miklós Takács</i> : On both sides of the border: defense and cooperation. Archaeological research of the Árpád Age borders of the Kingdom of Hungary	103
<i>Bianka Gina Kovács – Máté Róbert Merkl – Richárd Schmidt Mayer – Katalin Julianna Szilvási – Ferenc Gyulai</i> : Landscape, settlements, and environment around Tata Castle in the Middle Ages	131
<i>László Ferenczi – Tibor Ákos Rácz</i> : Pest County and Dabas district in the Middle Ages a multidisciplinary and geospatial investigation into the problem of settlement desertion in Central Hungary	187
<i>Zsófia Bocsi – Bianka Gina Kovács – Gábor Mesterházy – Máté Stibrányi – Csilla Zatykó – Gyöngyi Kovács</i> : Veleg, a medieval village in the Csókakő castle domain (Fejér County, Hungary)	227
<i>Károly Belényesy</i> : Spaces and shapes. Possibilities of the research of historical landscapes with LiDAR and ALS surveys	255

## LIST OF AUTHORS

BELÉNYESY, KÁROLY

Mayor's Office of the City of Székesfehérvár  
H-8000 Székesfehérvár, Városház tér 1.  
belenyesy@gmail.com

BERTA, ADRIÁN

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
berta.adrian@abtk.hu

EKRIK, ÁKOS

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
ekrik.akos@abtk.hu

FERENCZI, LÁSZLÓ

Ústav pro archeologii  
Univerzita Karlova, Filozofická fakulta  
CZ-116 38 Praha 1 nám. Jana Palacha 1/2  
Laszlo.Ferenczi@ff.cuni.cz

GYULAI, FERENC

Institute for Wildlife Management  
and Nature Conservation  
Hungarian University of Agriculture  
and Life Sciences  
H-2100 Gödöllő, Páter Károly str. 1.  
andor20@gmail.com

KOLLÁTH, ÁGNES

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
kollath.agnes@abtk.hu

KOVÁCS, ÁGNES

King St. Stephen Museum  
H-8000 Székesfehérvár, Fő u. 6.  
kovacs.agnes@szikm.hu

KOVÁCS, BIANKA GINA

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
kovacs.bianka@abtk.hu

KOVÁCS, GYÖNGYI

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
kovacs.gyongyi@abtk.hu

LANGÓ, PÉTER

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
lango.peter@abtk.hu

MELIS, ESZTER

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
melis.eszter@abtk.hu

MERKL, MÁTÉ RÓBERT

Kuny Domokos Museum  
H-2890 Tata, Öregvár, Váralja út 1-3.  
Department of Environmental  
and Landscape Geography  
Eötvös Loránd University  
H-1117 Budapest, Pázmány Péter sétány 1/c.  
merkl.mate@gmail.com

MESTERHÁZY, GÁBOR

Hungarian National Museum  
H-1088 Budapest, Múzeum krt. 14-16.  
mesterhazy.gabor@hmn.hu

NÁDAI, ZSÓFIA

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
nadai.zsofia@abtk.hu

RÁCZ, TIBOR ÁKOS

Ferenczy Museum Center  
H-2000 Szentendre, Fő tér 2-5.  
racz.tibor.akos@gmail.com

SCHMIDTMAYER, RICHÁRD

Kuny Domokos Museum  
H-2890 Tata, Öregvár, Váralja út 1-3.  
schmidtmayer@gmail.com

STIBRÁNYI, MÁTÉ

Hungarian National Museum  
H-1088 Budapest, Múzeum krt. 14-16.  
stibranyi.mate@hmn.hu

SZILVÁSI, KATALIN JULIANNA

szilvasikatalin05@gmail.com

TAKÁCS, MIKLÓS

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
takacs.miklos@abtk.hu

ZATYKÓ, CSILLA

Institute of Archaeology,  
Research Centre for the Humanities  
H-1097 Budapest, Tóth Kálmán utca 4.  
zatyko.csilla@abtk.hu



## ABBREVIATIONS

AAC	Acta Archaeologica Carpathica (Kraków)
ActaArchHung	Acta Archaeologica Academiae Scientiarum Hungaricae (Budapest)
ActaMusPapensis	Acta Musei Papensis. A Pápai Múzeum Értesítője (Pápa)
Acta Botanica Hungarica	Acta Botanica Hungarica. A quarterly of the Hungarian Academy of Sciences (Budapest)
Aetas	Aetas. Történettudományi Folyóirat (Szeged)
Agria	Agria. Az Egri Múzeum Évkönyve (Eger)
AgrSz	Agrártörténeti Szemle (Budapest)
AKorr	Archäologisches Korrespondenzblatt (Mainz)
Alba Regia	Alba Regia. Annales Musei Stephani Regis. Az István Király Múzeum Évkönyve (Székesfehérvár)
Antaeus	Antaeus. Communicationes ex Instituto Archaeologico (Budapest)
AÖ	Archäologie Österreichs (Wien)
AR	Archeologické Rozhledy (Praha)
ArchA	Archaeologia Austriaca (Wien)
Archaeometry	Archaeometry (London)
Archeometriai Műhely	Archeometriai Műhely. Elektronikus Folyóirat (Budapest)
ArchÉrt	Archaeologiai Értesítő (Budapest)
ArchHung	Archaeologia Hungarica (Budapest)
Arrabona	Arrabona. A Győri Xantus János Múzeum Évkönyve (Győr)
AV	Arheološki Vestnik (Ljubljana)
BAR-IS	British Archaeological Reports – International Series (Supplementary) (Oxford)
BudRég	Budapest Régiségei (Budapest)
Burgen und Schlösser	Burgen und Schlösser. Zeitschrift für Burgenforschung und Denkmalpflege (Heidelberg)
Cahiers LandArc	Les Cahiers LandArc (Fleurance)
Castrum	Castrum. A Castrum Bene Egyesület Hírlevele (Budapest)
CommArchHung	Communicationes Archaeologicae Hungariae (Budapest)
Cumania	Cumania. Bács-Kiskun Megyei Múzeumok Közleményei. Acta Museorum ex Comitatu Bács-Kiskun (Kecskemét)
Demográfia	Demográfia. Népeségtudományi Folyóirat (Budapest)
DissPann	Dissertationes Pannonicae (Budapest)
DuDolg	Dunántúli Dolgozatok (Pécs)

Építés- Építészettudomány	Építés- Építészettudomány. A Magyar Tudományos Akadémia Műszaki Tudományok Osztályának Közleményei (Budapest)
Érem	Az Érem (Budapest)
ÉT	Élet és Tudomány (Budapest)
Ethnographia	Ethnographia. A Magyar Néprajzi Társaság Folyóirata (Budapest)
FMTÉ	Fejér Megyei Történeti Évkönyv (Székesfehérvár)
FolArch	Folia Archaeologica (Budapest)
FontArchHung	Fontes Archaeologici Hungariae (Budapest)
FÖ	Fundberichte aus Österreich (Wien)
Föld és Ember	Föld és Ember. Negyedévenként Megjelenő Tudományos Szemle (Budapest)
FrK	Földrajzi Közlemények (Budapest)
Geomorphology	Journal of Geomorphology (New York)
Gesta	Gesta. Historical Review (Miskolc)
Gymnasium	Gymnasium. Zeitschrift für Kultur der Antike und humanistische Bildung (Heidelberg)
GySz	Győri Szemle (Győr)
Határtalan Régészet	Határtalan régészet. Archeológiai Magazin. A Móra Ferenc Múzeum Régészeti Magazinja. Régészeti Ismeretterjesztő Magazin (Szeged)
HungArch	Hungarian Archaeology. E-Journal (Budapest)
Hungarian Studies	Hungarian Studies. A Journal of the International Association for Hungarian Studies and Balassi Institute (Budapest)
Jahrbuch des RGZM	Jahrbuch des Römisch-Germanischen Zentralmuseums Mainz (Mainz)
JAMÉ	A Nyíregyházi Jósa András Múzeum Évkönyve (Nyíregyháza)
JAS	Journal of Archaeological Science (London)
JCAA	The Journal of Computer Applications in Archaeology
KDMK	Kuny Domokos Múzeum Közleményei (Tata)
KMMK	Komárom-Esztergom Megyei Múzeumok Közleményei (Tata)
Korall	Korall. Társadalomtörténeti Folyóirat (Budapest)
KRMK	A Kaposvári Rippl-Rónai Múzeum Közleményei (Kaposvár)
LDMK	A Laczkó Dezső Múzeum Közleményei (Veszprém)
MatArchSlov	Materialia Archaeologica Slovaca (Nitra)
MFME StudArch	A Móra Ferenc Múzeum Évkönyve – Studia Archaeologica (Szeged)
MHKÁS	Magyarország honfoglalás kori és kora Árpád-kori sírleletei (Budapest)
MittArchInst	Mitteilungen des Archäologischen Instituts der Ungarischen Akademie der Wissenschaften (Budapest)
MNy	Magyar Nyelv (Budapest)
Múzeumcafé	Múzeumcafé. A Múzeumok Magazinja (Budapest)

---

Múzeumi Hírlevél	Múzeumi Hírlevél. A Kalocsai Múzeumbarátok Köre Kiadványa (Kalocsa)
MRT	Magyarország Régészeti Topográfiája (Budapest)
Ókor	Ókor. Folyóirat az Antik Kultúrákról (Budapest)
Ősrégészeti Levelek	Ősrégészeti Levelek. Prehistoric Newsletter (Budapest)
PA	Památky Archeologické (Praha)
PBF	Prähistorische Bronzefunde (München)
PNAS	Proceedings of the National Academy of Sciences (Washington, D. C.)
Quaternary Int	Quaternary International. The Journal of the International Union for Quaternary Research (Oxford – New York)
RégFüz	Régészeti Füzetek (Budapest)
Remote Sens	Remote Sensing (Tulsa)
Savaria	Savaria. A Vas Megyei Múzeumok Értesítője (Szombathely)
SbNM	Sbornik Národního Muzea v Praze Ser. A. (Praha)
SlA	Slovenská Archeológia (Bratislava)
SMK	Somogyi Múzeumok Közleményei (Kaposvár)
SSz	Soproni Szemle (Sopron)
Studia Hercynia	Studia Hercynia. Journal of the Institute of Classical Archaeology (Praha)
ŠtZ	Študijné Zvesti Arheologického Ústavu Slovenskej Akadémie Vied (Nitra)
Századok	Századok. A Magyar Történelmi Társulat Közlönye (Budapest)
Turul	Turul. A Magyar Heraldikai és Genealogiai Társaság Közlönye (Budapest)
UPA	Universitätsforschungen zur prähistorischen Archäologie (Bonn)
VAH	Varia Archaeologica Hungarica (Budapest)
VMMK	A Veszprém Megyei Múzeumok Közleményei (Veszprém)
WMMÉ	A Wosinsky Mór Múzeum Évkönyve (Szekszárd)
ZalaiMúz	Zalai Múzeum (Zalaegerszeg)
ZbSNM	Zborník Slovenského Národného Muzea. Archeológia (Bratislava)
ZfAM	Zeitschrift für Archäologie des Mittelalters (Köln)



LÁSZLÓ FERENCZI – TIBOR ÁKOS RÁCZ

**PEST COUNTY AND DABAS DISTRICT IN THE MIDDLE AGES  
A MULTIDISCIPLINARY AND GEOSPATIAL INVESTIGATION INTO  
THE PROBLEM OF SETTLEMENT DESERTION IN CENTRAL HUNGARY**

**Zusammenfassung:** Die Studie befasst sich mit der Bewertung historisch-topographischer und archäologischer Daten auf GIS-Basis, mit besonderem Fokus auf der Verwaltungsregion Dabas im Komitat Pest. Die historisch-topographischen Datenbanken ermöglichen eine besonders detaillierte Rekonstruktion des Siedlungsnetzwerks ab der Árpádenzeit einerseits, und einen langfristigen, diachronen Vergleich hinsichtlich der spätmittelalterlichen und frühneuzeitlichen Epoche andererseits. Den historischen Kontext beleuchten wir anhand der archäologisch-topographischen Daten, die uns aus diversen Quellen (systematische Feldstudien, archäologische Ausgrabungen in Verbindung mit Immobilienanlagen, bzw. Forschungsarbeiten mit der Anwendung von Metalldetektoren) zur Verfügung stehen. Der erste Teil der Arbeit konzentriert sich auf den Vergleich der Daten, die uns aus verschiedenen historisch-topographischen Namensregistern des Komitats Pest (genauer gesagt des östlich der Donau liegenden Bereichs des Komitats) vorliegen, bzw. auf eine umfassende Bewertung der Siedlungshierarchie und der Entvölkerung von Siedlungen basierend auf GIS-Analysen. Im zweiten Teil der Arbeit erörtern wir am Beispiel der Verwaltungsregion Dabas die lokale Dynamik der Siedlungen anhand der aktuell vorliegenden, archäologisch-topographischen Forschungsarbeiten und des reichhaltigen archäologischen Fundmaterials, das im Rahmen von Feldbegehungen, bzw. systematischen Untersuchungen mit Metalldetektoren zutage gefördert wurde. Im Einklang mit der Tradition der archäologisch-topographischen Fachliteratur Ungarns, konzentrieren wir uns auf eine moderne Verwaltungseinheit als Subjekt unserer Forschung, die in diesem Fall der Kreis Dabas ist. Ergänzend zu den oben beschriebenen Untersuchungen, stützen wir uns auch auf die Untersuchung der uns aus mittelalterlichen Urkunden zur Verfügung stehenden topographischen Daten (mit besonderem Fokus auf den Grenzbezirken, bzw. den Straßen- und Siedlungsnetzwerken) und deren umweltbedingten Zusammenhängen. Auf Grundlage verschiedenster (historisch-topographischer, kartographischer, umweltbedingter und archäologischer) Daten und der GIS-basierten Analyse besagter Daten behandeln wir die Frage des Siedlungsverfalls und der Siedlungshierarchie im Mittelalter mithilfe eines interdisziplinären und ebenenübergreifenden (Mikroregion und Komitat) Ansatzes, bzw. analysieren das Phänomen der Streusiedlungen und Siedlungsentvölkerung in komplexer und langfristiger Hinsicht.

**Keywords:** geospatial analysis, archaeological topography, settlement hierarchy and desertion, metal detector surveys, Árpád Age, Early Medieval and Late Medieval Period, Pest County, Hungary

*Historical topographical research*

The starting point of our topographic study is György Györffy's historical topographical gazetteer of Árpád Age settlements (identified from historical documents),<sup>1</sup> which also includes concise introductions to the Árpád Age/early medieval<sup>2</sup> settlement history of each county.

<sup>1</sup> Györffy 1998.

<sup>2</sup> In this study, the period dating from ca. 970–1301 (the reign of the Árpád dynasty) is referred to with two interchangeable terms. In Hungarian scholarship, this phase of the Middle Ages is traditionally referred to as 'early medieval'; in international scholarship, however, the term 'high medieval' is commonly used.

Some of Györffy's observations are worth summarising here briefly. He concluded that the 1241 Mongol Invasion caused great destruction in the settlement network in Pest County and that the subsequent second invasion in 1285–1286 also decimated the population. Consequently, many early medieval settlements became abandoned, and the remaining population fragments migrated to the other side of the Danube (that has been assumed based on 'twin' settlements, i.e., ones with identical names). Györffy also noted that estimating the magnitude of the demographic and settlement changes is problematic, difficult, or nearly impossible since both archaeological and historical records are fragmentary, and the available corpus of medieval documents, which survived from before 1241, does not allow a fine-scale reconstruction. Nonetheless, he estimated the rate of desertion based on the income registers of the Diocese of Vác (dating from 1185 and 1318, respectively) to be around 75%.<sup>3</sup> Furthermore, he argued that large-scale resettlement did not take place in Pest County since the topography was not suitable for the construction of stone castles (carried out within the frame of a comprehensive campaign initiated by King Béla IV in different parts of the Kingdom of Hungary) and also because of the not-so-peaceful circumstances of settling due to the presence of a Cuman population in the southern parts of the Danube–Tisza Interfluve, with centres around Kecskemét. The Cumans were invited by the king to settle depopulated areas in the region (in the final decades of the 13th century) as a protective measure against possible future attacks.

Some of these assumptions are, however, hypothetical. Györffy's calculations based on the two diocesan registers might be arbitrary, as he has taken for granted an organic, continuous, 100% population growth rate between the two dates. He ignored spatial variations, except for the area of Gödöllői-dombság [Gödöllő Hills], where, as he noted, the settlement network could have remained relatively dense (at least archival sources dating from the first half of the 14th century indicate that).<sup>4</sup> As for the average population per settlement, he estimated the average household number of the villages in Pest County to be around twenty. However, that was based on a few examples only, mentioned mostly in late 13th-century charters: Rákoscsaba – 18 households (1267), Csöt – 18 households (1222), (Káposztás)Megyer – 25 households (ca. 1273), and Szentdienes – 10 households (ca. 1273).<sup>5</sup> Some of these settlements were part of ecclesiastical estates with higher-than-average populations, and three of them appear to have been depopulated already in the 14th century, unlike many other, which prevailed but with smaller populations than before. Overall, Györffy's estimations were found to be exaggerated.<sup>6</sup> Early 16th-century tax conscriptions provide a lower estimate,<sup>7</sup> and the average household number per village was perhaps also lower in the Árpád Age.

As for the later medieval period (14th to early 16th centuries), the available historical topographical dictionary of toponyms<sup>8</sup> is less systematic and thorough as in the case of the Árpád Age. A full survey of the respective data was not accomplished; expecting that would be unrealistic considering how massive the body of documents from this period is.<sup>9</sup> Besides, the problem of late 13th–early 14th-century desertion (in context with the Mongol Invasion and the related socio-economic changes) received more attention from historians and archaeologists than the later desertion waves related to economic changes in the 14th and 15th centuries and

---

<sup>3</sup> Györffy 1998 503–504.

<sup>4</sup> Györffy 1998 503–504.

<sup>5</sup> Györffy 1998 507.

<sup>6</sup> Vékony 2001.

<sup>7</sup> Maksay 1990.

<sup>8</sup> Csánki 1890.

<sup>9</sup> However, later works (*Bártfai Szabó 1938; Bakács 1982*) provide additional data.



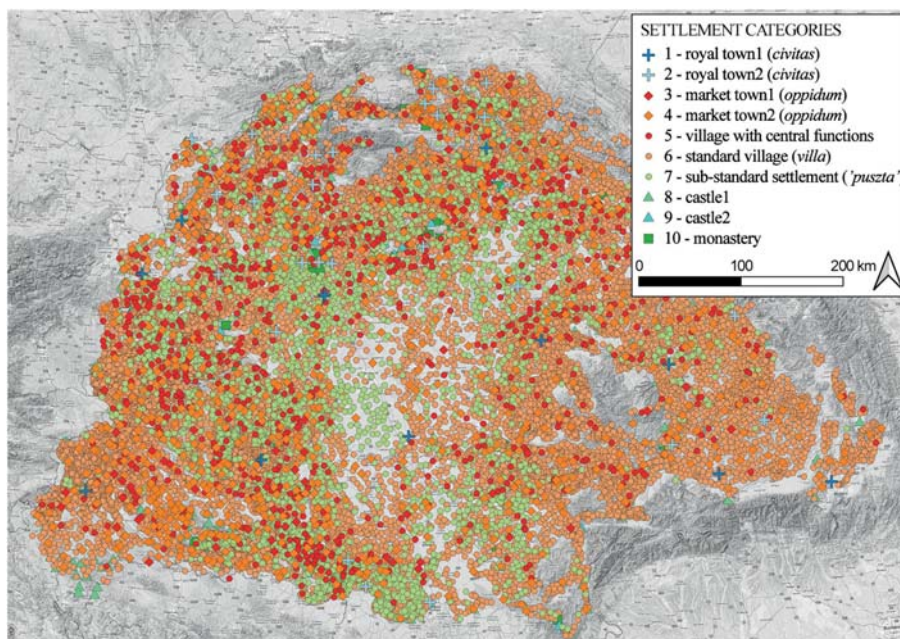


Fig. 1. Engel's system of settlement classification (©László Ferenczi after Engel 2001)

the destruction caused by the Ottoman wars in the 16th century.<sup>10</sup> The relatively more abundant Late Middle Age and Ottoman Era source material, however, allows for studying more complex processes that influenced the desertion and development of settlements: the documents of the Ottoman administration concerning taxation, military campaigns, or colonisation programmes and the various conscriptions produced by the municipal administration can be used to reconstruct internal migration. These aspects remain largely out of the scope of Árpád Age sources.

Incorporating data from these two historical-topographical gazetteers, Pál Engel compiled a digital settlement-historical database focusing on the Late Medieval Period and the early 16th century.<sup>11</sup> The core dataset (or starting point) of his data collection was Ottoman Period tax conscriptions, including both Ottoman and Hungarian tax records dating mainly from the mid-16th century or later. The advantage of these records for topographical reconstruction is that they provide a comprehensive, systematic view as they cover most parts of the country. Nonetheless, relying on tax conscriptions means implying a practical socio-economic filter, as only settlements with a reasonable number of taxable inhabitants, i.e., ones with an income reaching the minimum tax base were conscribed. This means that even these records were selective and do not cover every element of the former settlement network. Engel completed Hungarian data using Ottoman registers (*defters*). Furthermore, he consulted cartographical sources and included locational data and toponyms also of those settlements that appeared on the maps of the Habsburg Military Surveys and on other 19th-century cadastral maps. He applied a classification with categories from 1 to 11 (*fig. 1*), where, in addition to castles, monasteries, towns, and market towns, he determined three types of rural settlements: villages with centrality functions (category 5: with market rights or customs), category 6: regular/standard villages, and category 7: the ones that

<sup>10</sup> Seminal works on the problem of settlement desertion have been published already in the 1930s, focusing mainly on demographic perspectives but also on political and socio-economic phenomena (the impact of pauperization; expansion of allodial lands; shifts in economic regimes). Cf. *Juhász 1936; Szabó 1938; Elekes 1955; Maksay 1958; Makkai 1966; Neumann 2003*. For a brief summary of the different phases of settlement desertion in Medieval Hungary in English, see *Kiss 2019 96–100*.

<sup>11</sup> *Engel 2001*.

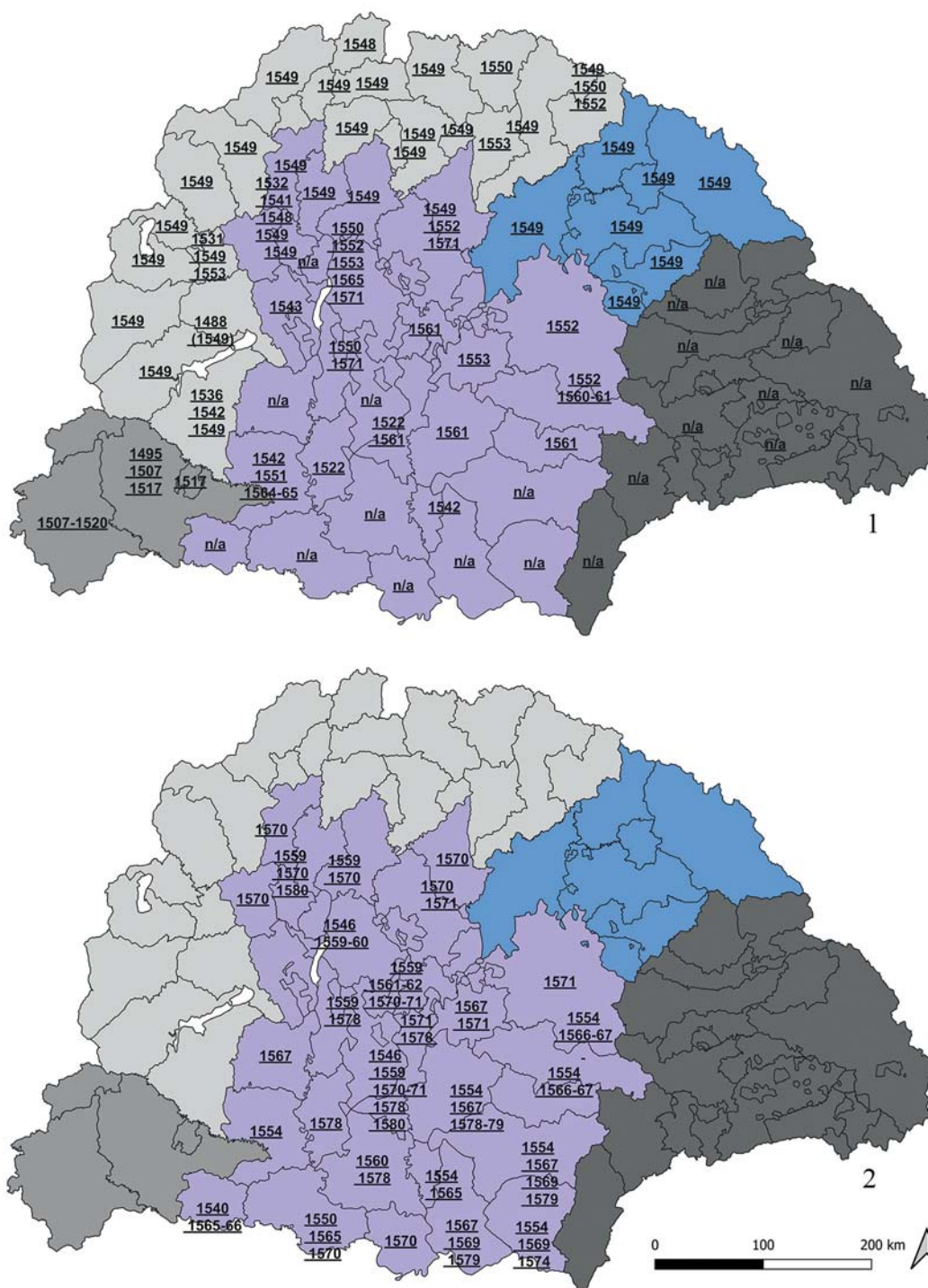


Fig. 2. 1–2. The spatial coverage of Hungarian and Ottoman tax records (with dates) in Engel's database (©László Ferenczi after Engel 2001)

did not appear in the tax records but could be identified as medieval or early modern settlements documented in some other sources (e.g., *defters*, medieval charters, maps) and/or discussed by György Györffy or Dezső Csánki. Unfortunately, the digitization of the data of Hungarian tax conscriptions<sup>12</sup> and Ottoman *defters* has remained incomplete. Demographic data (household

<sup>12</sup> Maksay 1990.



	19th century	16th century	14th–15th centuries	Early 11th–14th centuries
	<i>Lipszky 1808</i> ( <i>'puszta/praedium'</i> )	<i>Engel 2001</i>	<i>Csánki 1890</i>	<i>Györffy 1998</i>
cat. 5	2	14	14 (100%)	14 (100%)
cat. 6	8	91	76 (83%)	74 (81%)
cat. 7	27	94	68 (72%)	66 (70%)
Total		198	200	ca. 200

Table 1. Concordance of settlement names/settlements belonging to different categories [cat. 5, 6, and 7] listed in the gazetteers published by *Engel 2001*, *Csánki 1890* and *Györffy 1998*

numbers) (*fig. 2. 1–2*) were added as attributes of settlement points only in a few counties and certain regions. In addition to the categorical classification of settlements, this is also relevant as proxy data for evaluating settlement hierarchy.

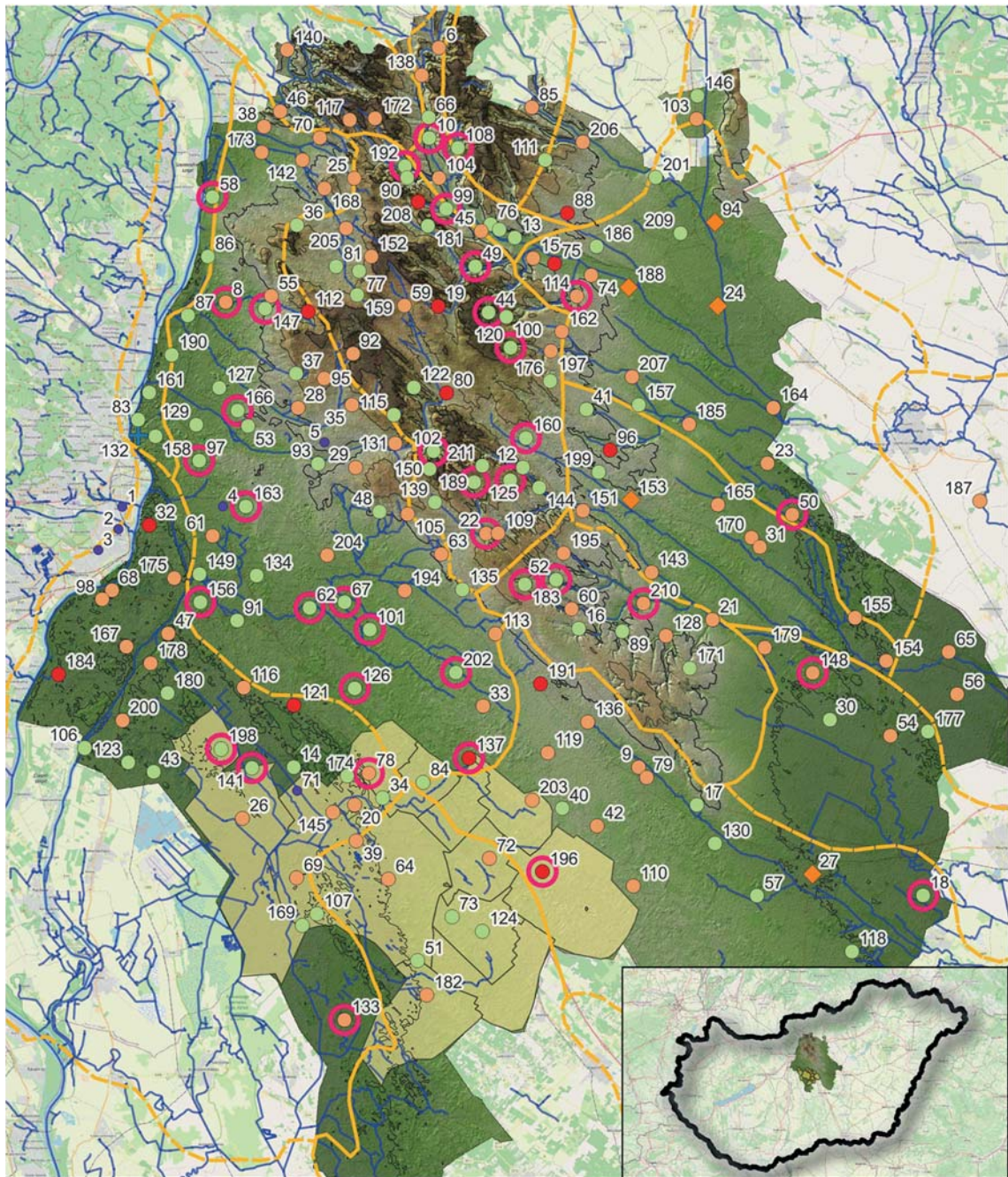
Overall, these three databases provide a comprehensive and *longue durée* view on the structure and development of the settlement network. Engel's retrogressive approach to the reconstruction of the late medieval settlement network (starting with later records and cartographical sources) is feasible considering the fragmentary or mosaic nature of the earlier data (mostly charters). The toponyms recorded in 16th-century conscriptions were instrumental for linking medieval placenames as accurately as possible with modern cartographical sources and the settlement network as we know it presently. A similar, retrogressive topographical analysis has been routinely applied in the published volumes of archaeological topographical registers, also incorporating data from historical topographical works.<sup>13</sup>

At first glance, the number of inventoried settlements is roughly similar in the works of Györffy, Csánki, and Engel. However, when cross-checking their data, one finds about twenty to thirty names from both the Árpád Age and the Late Medieval Period which do not show up in Engel's list. In fact, the three lists overlap only partially (*Table 1*). The underlying changes do not necessarily mean that the respective settlements were abandoned in connection with the population decrease. Apparently, it is very difficult to interpret the context of these transitions or changes precisely. Apart from demographic change, local population movements/relocation/settlement contraction occurred. The locations of disappearing placenames are problematic, unless the relations can be clarified based on cartographically documented micro-toponyms (which occasionally preserve them), or through a careful analysis of perambulations (which may provide detailed topographic information). In a few instances, where such documents were available, the approximate locations of these 'disappearing' settlements could be identified by Györffy. Conspicuously, names with a '-*telke*' ['plot of...'], or '-*földe*' ['land of...'] suffix often appear in this group,<sup>14</sup> indicating most probably dispersed (farmstead-like) settlements in connection with land clearing and soil amelioration/fertilisation (*terra firmata*). The disappearance of these names from later records is likely explained by the process of settlement contraction during the transition between the Árpád Age and the Late Medieval Period,<sup>15</sup> resulting in more compacted settlement structures, as also confirmed by archaeological excavations of rural sites.

<sup>13</sup> For Pest County, see *MRT 7*; *MRT 9* and *MRT 11*.

<sup>14</sup> Such as, e.g., *Teka-földje*, *Reg-telek*, *Bökény-földe*, *Tornyos-telek*, *Vernel-telke*, and *Albert-földe*, which are all situated north of the study area; see *Györffy 1998*, *passim*.

<sup>15</sup> There have been different interpretations put forward by *Györffy 1961* and *Mező 1996*, which have been briefly summarized by *Kristó 2003*, and more recently discussed in *F. Romhányi – Laszlovszky 2021*.



- waterways (OSM)
- 50 m contours
- landscape regions
- Dabas district
- Lipszky (1808)
- 'puszta'

- Engel (2001) settlement categories
- + 1 - royal townl (*civitas*)
  - ◆ 4 - market town (*oppidum*)
  - 5 - village with centrality (*villa*)
  - 6 - standard/regular village (*villa*)
  - 7 - substandard settlement ('*puszta*')
  - 11 - uncategorized/modern

DEM (SRTM)  
elevation (m)

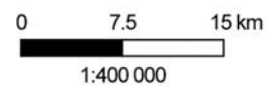




Fig. 3. Engel's system (after *Engel 2001*) of settlement classification, illustrated by the example of Pest County. Settlements marked as [cat. 5, 6, and 7] and referred by *Lipszky 1808* as *praedium/puszta* (after *Györffy 1998*) 1. Budapest-Rákosliget; 2. Budapest-Kispest; 3. Budapest-Budatétény; 4. Budapest-Budafok; 5. Budapest-Albertfalva; 6. Acsa; 7. Ákosmonostor; 8. Alag; 9. Alberti; 10. Almás; 11. Ancstelke; 12. Apáti; 13. Aszó; 14. Babád; 15. Bag; 16. Bénye; 17. Bercel; 18. Besenyő; 19. Besenyő; 20. Besenyő; 21. Bicske; 22. Bille; 23. Boldogasszonykátá; 24. Boldogfalva; 25. Bottyán; 26. Bugyi; 27. Cegléd; 28. Cinkota; 29. Csaba; 30. Cseke; 31. Csekekátá; 32. Csepel; 33. Csév; 34. Csikos; 35. Csiktarcsa; 36. Csomád; 37. Csömör; 38. Csörög; 39. Dabas; 40. Dános; 41. Dány; 42. Dány; 43. Délegyháza; 44. Diód; 45. Domony; 46. Duka; 47. Dunaharaszti; 48. Ecsér; 49. Egerszeg; 50. Egreskátá; 51. Eső; 52. Farkasd; 53. Farkashalom; 54. Félégyház; 55. Fót; 56. Füzesmegyer; 57. Gerje; 58. Göd; 59. Gödöllő; 60. Gomba; 61. Gubacs; 62. Gyál; 63. Gyömrő; 64. Gyón; 65. Györgye; 66. Györke; 67. Halom; 68. Háros; 69. Hartyán; 70. Hartyán; 71. Hartyán Új-; 72. Hernád; 73. Hetény; 74. Hévíz; 75. Hévízgyörk; 76. Iklad; 77. Iklad; 78. Inárcs; 79. Irsa; 80. Isaszeg; 81. Ivacs; 82. Jánoshida; 83. Jenő; 84. Kakucs; 85. Kálló; 86. Káposztáskeszű; 87. Káposztásmegeyer; 88. Kartal; 89. Káva; 90. Kér; 91. Kerekegyháza; 92. Kerepes; 93. Keresztúr; 94. Kishatvan; 95. Kistarcsa; 96. Kóka; 97. Kövérölde; 98. Lak; 99. Liget; 100. Liget; 101. Lőb; 102. Locsod; 103. Lőrinci; 104. Mácsa; 105. Maglód; 106. Majorlak; 107. Mántelek; 108. Megyer; 109. Mende; 110. Mikebuda; 111. Mindszent; 112. Mogyoród; 113. Monor; 114. Monostor; 115. Nándor; 116. Némedi; 117. Némedi; 118. Nyárasapáti; 119. Nyáregyháza; 120. Nyír; 121. Ócsa; 122. Ökörtelek; 123. Ordasháza; 124. Örkény; 125. Oszlár; 126. Pakony; 127. Palota; 128. Pánd; 129. Párdi; 130. Páty; 131. Pécel; 132. Pest; 133. Peszér; 134. Péteri; 135. Péteri; 136. Pilis; 137. Pótharaszti; 138. Püspökhatvan; 139. Püspöki; 140. Rád; 141. Ráda; 142. Rátót; 143. Ság; 144. Sáp; 145. Sári; 146. Selyp; 147. Sikátor; 148. Sőreg; 149. Soroksár; 150. Sukoró; 151. Süly; 152. Szada; 153. Szecső; 154. Szele; 155. Szelefaros; 156. Szentdienes; 157. Szentegyed; 158. Szentfalva; 159. Szentjakab; 160. Szentkirály; 161. Szentlászló; 162. Szentlászló; 163. Szentlőrinc; 164. Szentlőrinc-kátá; 165. Szentmártonkátá; 166. Szentmihály; 167. Szentmiklós; 168. Szentmiklós; 169. Szentpéter; 170. Szenttamás-kátá; 171. Szentvid; 172. Szilágy; 173. Szód; 174. Szodakháza; 175. Szőlős; 176. Szörény; 177. Szőrös; 178. Taksony; 179. Tápiószentmárton; 180. Tárnok; 181. Tas; 182. Tatárszentgyörgy; 183. Tete; 184. Tököl; 185. Tótalmás; 186. Tótfalu; 187. Tótkér; 188. Tura; 189. Túz; 190. Újbécs; 191. Újfalu; 192. Újfalu; 193. Újszász; 194. Üllő; 195. Uri; 196. Vacs; 197. Valkó; 198. Vány; 199. Várak; 200. Varsány; 201. Varsány; 202. Vasad; 203. Vatyá; 204. Vecsés; 205. Veresegyház; 206. Versegd; 207. Zsámbok; 208. Zsidó; 209. Zsidótelek; 210. Zsiger; 211. Zsira (©László Ferenczi)

In addition to the perspectives discussed above, it is worth exploring the concordance of the three settlement lists in more detail, focusing on Engel's three categories of rural settlements. His list includes 211 entries from Pest County, of which – besides the royal towns, the market towns, and the unclassified settlements of pre-modern origin – 198 entries represent the three above-mentioned categories. The level of concordance between these lists (or rather their differences) can be explained by multiple factors, including primarily data taphonomy (the lack of archival documents dating from earlier periods), but also administrative changes (i.e., shifting county borders; note that we did not check the available volumes of Györffy and Csánki for the counties adjacent to Pest) and different settlement historical processes. Villages with centrality functions [cat. 5] were visibly the most stable nodes of the settlement network, as all fourteen of them were referred to throughout the 11th–16th centuries. Only two, Vacs and Pótharaszti seem to have degraded into manors/dispersed settlements in the Modern Period<sup>16</sup> (*fig. 3*); this is perhaps because the landscape and the settlement conditions were less than favourable in Dabas district in the southern parts of Pest County (see below) and, therefore and because of the Cuman neighbours in the south, it was a generally less densely settled area.

In contrast, in the case of [cat. 6] and [cat. 7] settlements, the match between Engel's data and the earlier settlement historical evidence is only partial (ca. 70–80%). The relatively lower number of [cat. 6] settlements (regular villages) documented in the Árpád Age and late medieval records is due perhaps not just to data taphonomy but also to that some settlements had been

<sup>16</sup> According to the categorisation in *Lipszky 1808*.

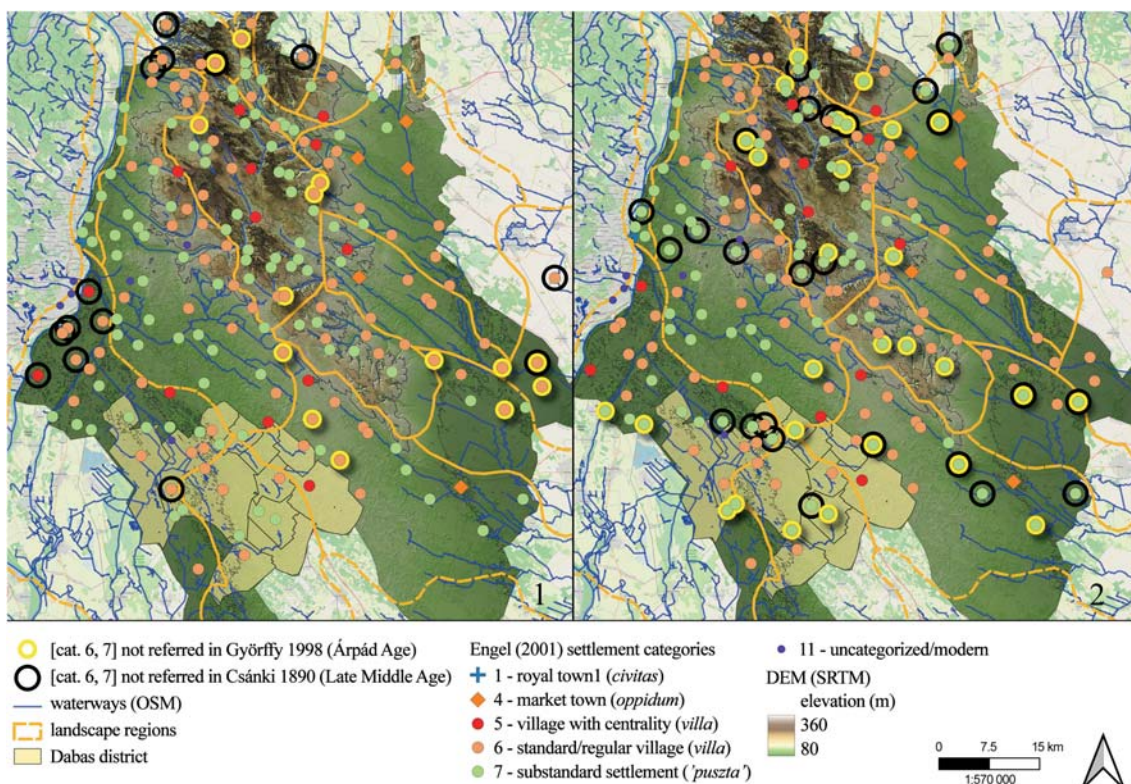


Fig. 4. 1–2. [cat. 6] and [cat. 7] settlements. The ones that do not appear in earlier sources are highlighted (Györffy 1998; Csánki 1890) (©László Ferenczi)

established relatively late, during the 13th century or later (fig. 4. 1), thus do not appear in Árpád Age or later sources and, consequently, were not included in Györffy's or Csánki's registers. When mapping this concordance or difference, the distribution of [cat. 6] settlements may also indicate the issue mentioned above (administrative changes along county borders, i.e., variation in the affiliation of settlements between different counties).

The lesser agreement (70–72%) in the case of [cat. 7] settlements may generally indicate changes of more substantial kind with regard to this category (fig. 4. 2). This suggests also other factors at work; however, one should be careful and keep in mind also that this category is arbitrary, representing a mix of different settlements which did not qualify as 'regular' taxpaying villages, including, e.g., dispersed and temporary settlements, farmsteads, manors, and potentially also degraded, transformed, deserted, and abandoned settlement sites.<sup>17</sup> In earlier sources, some may appear as 'regular' villages, which may suggest, indeed, their desertion or degradation into this 'substandard' category. Nonetheless, such diachronic interpretations can very rarely be underpinned with evidence, for most charters tend to use rather general terms (*possessio*) when referring to a settlement or 'village' and avoid using clearer categories, such as *villa*, *terra*, or *praedium*.<sup>18</sup>

Only fourteen references dating before the 16th century and specific to *praediums* could be found in the works of Györffy and Csánki on Pest County. Gedéd (1469) and Szentgyörgy (1426) are not included in Engel's list; they became most likely abandoned and their names vanished. Bag (1430), Besnyő/*Bessenyeweghaz* (1434) – not the 'Besenyő' in Dabas district, but the other

<sup>17</sup> In the database, Engel describes this category generally as '*puszta*' ['abandoned/deserted land'], which may refer to agricultural farms (as on maps) and abandoned/uninhabited settlement sites.

<sup>18</sup> This is partly due to changing trends in terminology in the sources; see Szabó 1966 Chapter 3, '*A villától a possessióig*' ['From the *villa* to the *possessio*'].

one near Cegléd – , Csaba(rákosa) (1267), Gubacs (1267), Némedi/Nevegy appear later as [cat. 6], and Bercel (1482), Diód (1417), Iklad (1422), Liget (1422), Soroksár (1403), Székely (1388), and Vasad (1440) as [cat. 7] settlements.<sup>19</sup> Some medieval documents specifically refer to deserted/abandoned settlements as well. Györgye, Szele, and Tura are known to have been temporarily deserted during the Mongol Invasion;<sup>20</sup> Zádog/Tatárszentgyörgy (1385) and Vány (1359) are mentioned as deserted in the 14th century, while Babli (1406), Besnyő (1410), Kér (1422) and Szentgyed (1449) were described in the 15th century<sup>21</sup> as ‘*habitoribus/edificiis destituta*’, ‘*possessio deserta*’, or ‘*terra vacua*’. Györgye, Szele, Tatárszentgyörgy and Vány are known to have been resettled, (documented later as [cat. 6] settlements), Babli completely vanished, while Besnyő, Kér, Szentgyed and Vány could be classified as [cat. 7]. Apparently, it is possible to collect other references, mostly from the Late Medieval Period,<sup>22</sup> which complement these data and illustrate better the diverse composition of Engel’s [cat. 7] (*praedium*-type or else), as well as the diverging settlement historical trajectories (‘external’ vs ‘internal’ desertion) in the Árpád Age and the Late Medieval Period. However, a more comprehensive historical-topographical analysis is beyond the scope of this study and our interpretation of [cat. 7] settlements focuses on the spatial analysis of Engel’s data (site concentrations and different topographical parameters).

The large-scale concentration of [cat. 7] settlements on the Great Hungarian Plain raises intriguing questions. In fact, the whole landscape of the Danube–Tisza Interfluve seems to have been populated predominantly by settlements classified as [cat. 7] based on 16th-century tax records (*fig. 1*). How far the 16th-century settlement network (consisting predominantly of substandard settlements) could be determined by environmental factors (the steppe character of the Great Hungarian Plain with its variety of fluvial and aeolian landforms, including dunes, saline marshes, etc.)? How the so-called ‘dilatatory development’ of the macro-region influenced it? This development was affected by historical and socio-economic factors, including the presence of Cuman ethnic elements since the late 13th century, a belated urban-economic development in the 15th century and, lastly, external factors: wars, epidemics, environmental change/climate deterioration, and the Ottoman conquest. In this context, it is particularly interesting to see that this broad settlement-historical image might also be reflected by pollen cores, which indicate decreasing cereal pollen concentration rates and increasing deforestation from around 1350–1450 to around 1450–1550,<sup>23</sup> hinting at environmental or anthropogenic ‘degradation’.<sup>24</sup> In addition, cartographical and archival records also suggest that land-use patterns could have changed fundamentally by that time towards a heavy reliance on animal husbandry. This is consistent with arguments formulated by other disciplines about other regions of the Great Hungarian Plain (see the qualitative and quantitative analyses of historical or archaeozoological data).<sup>25</sup>

The ‘meso’-scale view of Pest County shows localised concentrations of [cat. 7] settlements, which might be explained by specific local factors. The largest number of substandard settlements appears in two micro-regions: the Pesti-hordalékkúpsíkság (Pest alluvial plain) and the Gödöllői-

<sup>19</sup> Györffy 1998 510, 517, 513, 518, 527; Csánki 1890 25, 27, 30, 31, 33, 34, 37.

<sup>20</sup> Cf. Wolf 2018 122–123. Its impact is typical to the sites along the major salt transportation route from Szolnok to Pest.

<sup>21</sup> Györffy 1998 563; Csánki 1890 25, 30, 34.

<sup>22</sup> Tringli 2001 102–110.

<sup>23</sup> Cf. Töröcsik – Sümegei 2019 258–260.

<sup>24</sup> Another aspect of this change is the more intensive erosion and deposition of aeolian landforms due to settlement desertion and changing land-use patterns (extensive animal husbandry and increased deforestation), which could be documented also archaeologically, in soil profiles illustrating the accumulating and overlapping layers of sand that cover agricultural soils and loess. See Lóki – Schweitzer 2001; Nyári – Rosta 2009; Nyári – Kiss 2005; Nyári et al. 2014; Knippl 2013.

<sup>25</sup> Pinke et al. 2016; Pinke et al. 2017; Csippán – Ferenczi 2020; Ferenczi 2021.



dombság. Notably, most settlements there appear to have retained their character in later centuries, as they were mapped as *praedium* by Lipszky in 1808. In other words, the settlement hierarchy in these micro-regions seems to have remained generally unchanged since the 16th century. One may argue that these [cat. 7] settlements represent a group whose substandard/dispersed character originates from the Medieval Period. However, in other micro-regions in the south (the Pilis–Alpári-homokhát [Pilis–Alpár sand ridge], the Monor–Irsai dombság [Monor–Irsa-Hills], and the Gerje–Perje-sík [Gerje–Perje plain], a few settlements qualifying as [cat. 5 and 6] villages according to 16th-century records also became *praedia* (according to Lipszky); thus, they possibly became abandoned/were degraded sometime between the 16th and the 18th centuries, indicating a more subtle change in the settlement network in those areas.

In addition to the Pesti-sík (Pest Plain) and the Gödöllői-dombság, a concentration of [cat. 7] settlements can also be observed in the Ócsa–Dabas district, and different explanations may apply to each cluster. In the Pesti-sík, south-southeast of the market town of Pest, the concentration is likely connected to the emerging significance of Pest, a market town that started to play an important role in international cattle trade already in the 15th century.<sup>26</sup> The peri-urban space could be tailored gradually to suit the needs of animal husbandry by converting deserted medieval settlement sites to pastures.<sup>27</sup> In the case of the Gödöllői-dombság, concentrations of [cat. 7] settlements can be observed around the headwaters of local streams, in areas of relatively poor-quality soils, whereas a stable network of villages existed in the lower areas in their vicinity. In this case, [cat. 7] settlements most likely represent dispersed farmstead-type sites marking a land-use pattern that suited the local landscape. In the case of the Ócsa–Dabas district, the landownership context might have been the most relevant factor behind the observed concentration as the Premonstratensian monasteries in Ócsa and Csút, founded in the 13th century, introduced an economic regime focusing on self-sustenance. This regime was based on manorial units situated closest to the abbey site and operated by the community. The concentration of [cat. 7] settlements around Ócsa may reflect the application of this model.<sup>28</sup>

Paleoecological and historical ecological investigations of the Ócsa peat-bog provide an outlook on how this model fitted the landscape. A waterlogged area extends along the dunes of the Danube–Tisza Interfluvium and at the border of the Duna menti síkság (Danubian Plain). According to 18th-century maps, an extensive network of lakes and marshes stretched towards the west from Ócsa, Inárcs, Kakucs and Dabas, between Bugyi, Sári, Gyón, Kunszentmiklós and Dömsöd. For the greater part of the year, this region could be approached only by boat, and one could travel between the various little islands at Bugyi and Ürbő in the direction of Kalocsa. Climate historical changes significantly influenced this landscape, causing periodical floods and the expansion of aquatic habitats. The Ócsa peat-bog is the northernmost element of this system, where palaeoenvironmental sampling and multiproxy analysis of malacological, botanical, pollen, radiocarbon, and geochemical samples from Ócsa-Selyemrét have revealed a gradual decrease in the extent of the surrounding forests between the Late Neolithic and the Early Bronze Age (probably indicating extensive pastoralism), accompanied by soil erosion, as a result of which the siltation of the bog intensified.<sup>29</sup> Although the most recent part (including the medieval) of the pollen sequence is missing due to modern peat extraction, medieval written sources have documented the management of wet meadows for hay transport and flood protection

<sup>26</sup> Cf. *Ferenczi 2021*.

<sup>27</sup> See, e.g., *Sárosi 2016*.

<sup>28</sup> However, according to *Mezey 1963*, this was an unlikely option with regard to the lands around Gyón, donated in 1264 to Csút/Csöt (in the vicinity of Ócsa), taking into account the generally declining economic potential of the model. Only that can be established that the sites listed in the document were not settled later.

<sup>29</sup> *Kustár et al. 2016*.

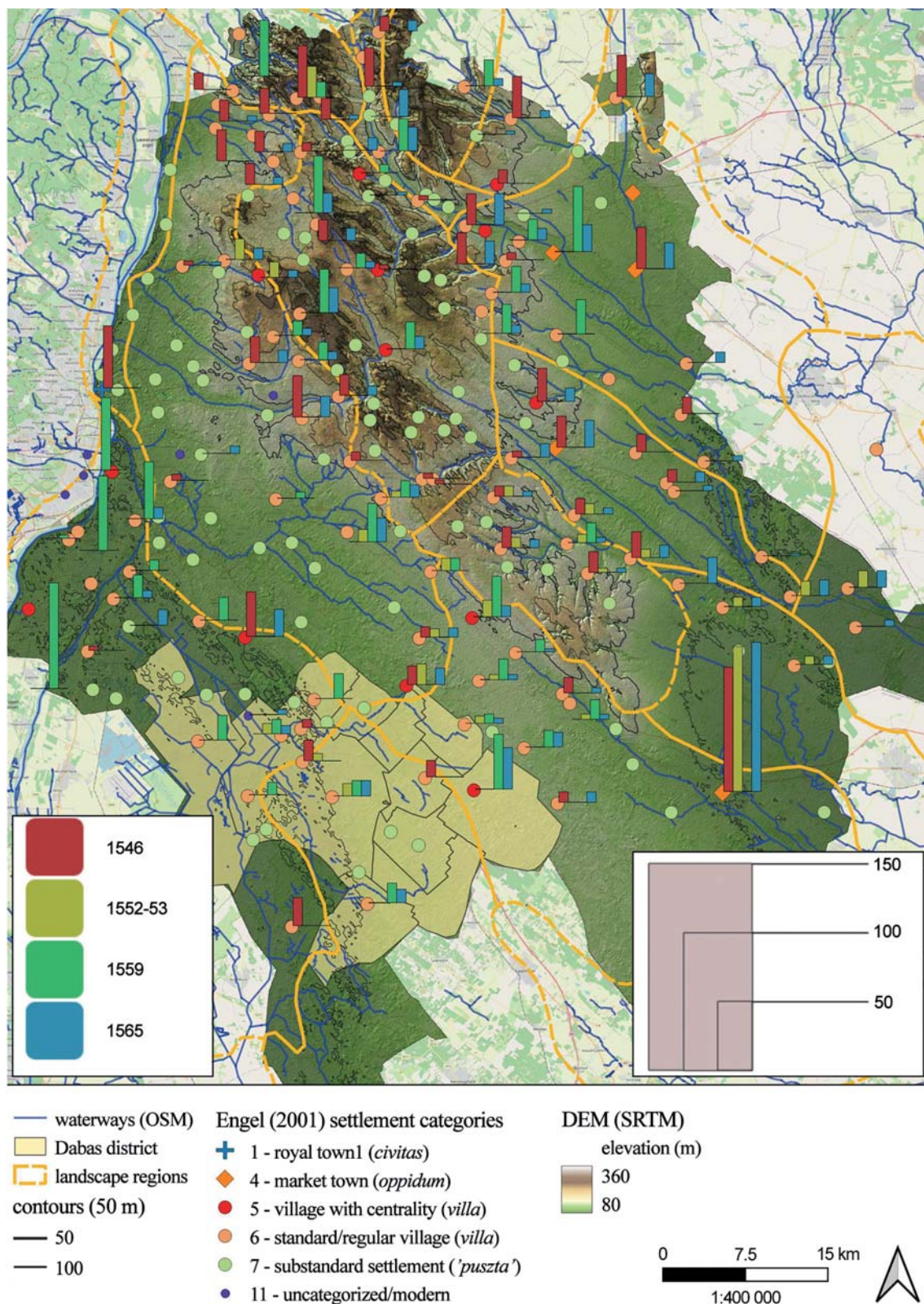


Fig. 5. Demographic data based on *Engel 2001*, complemented with data from *Maksay 1990* (©László Ferenczi)



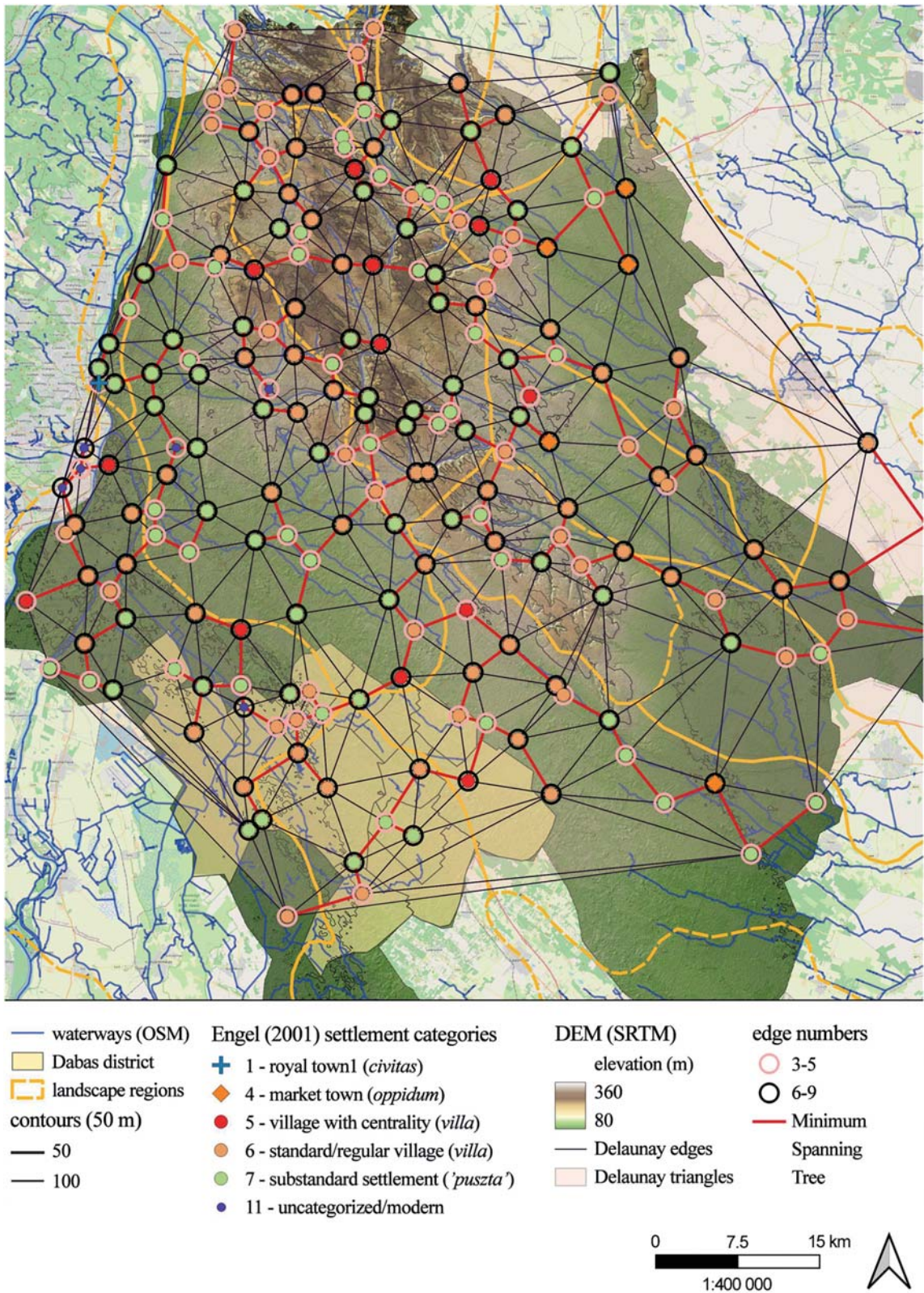


Fig. 6. Connectivity of settlements, modelled using Delaunay triangulation and minimum spanning tree algorithm to illustrate relative neighbourhood. Note also the relatively high edge numbers (connectivity) of [cat. 5] settlements, their position in the network, and vicinity to landscape boundaries (©László Ferenczi)



measures. Only in the early 19th century was a network of artificial channels (including the 150 km long Duna-völgyi-főcsatorna [Danube Valley Main Channel]) created, draining these lands and significantly changing their character. Ethnographic data and geographical toponyms from before that date, i.e., the Early Modern Period, still hint at the continuation of pastoralism there.<sup>30</sup>

In addition to the above-described socio-economic and environmental factors, the distribution pattern of [cat. 7] settlements (and partly the underlying problem of settlement desertion and abandonment) has to be viewed in the context of also other components of the settlement network, particularly the demographic pull factor and the centrality function. The centrality function and the topographical connectivity of certain settlements could have been an important factor in keeping population numbers stable, whereas the population of other settlements could more easily decline in periods of crisis. This dynamic ‘resilience’ is illustrated by both the tendentially more stable (or even slightly increasing) number of households recorded in market towns and [cat. 5] settlements (*fig. 5*) and their modelled connectivity (*fig. 6*). The mapped demographic data from various Ottoman Period registers from 1546–1565 show that population numbers remained relatively unchanged only in the peripheral zones of the Gödöllői-dombság and the Hatvani-sík. In contrast, in the southern parts of Pest County (mentioned above), the demographics of extant villages were very close to the state of collapse at that time (even the population of [cat. 5] settlements was low, see Pótharasztya and Vacs), whereas the population of one of the most important market towns in the region, Cegléd, kept slightly rising. This may be a marker of the impact of the Ottoman wars, namely that internal migration into the market towns intensified<sup>31</sup> while, at the same time, the lesser settlements around them became depopulated. Furthermore, spatial patterns of demographic data also indicate that settlements along major roads had a more stable population. In addition to demographics, the connectivity model – based on a mapping of the settlements as nodes according to the number of nearest neighbours – also shows connections with settlement status: [cat. 5] settlements with some sort of centrality function (and higher household numbers) typically have a higher number of links (i.e., are better connected in the model).

### *The micro-regions (natural landscapes) of Dabas district*

Micro-regional classification and boundaries (*fig. 7*) are based on an arbitrary grouping of ecotopes and landscape fragments, while it is rather difficult to provide a clear definition that incorporates the different physical, biological, and cultural aspects of the landscapes. Consequently, micro-regional boundaries are fuzzy, representing transitional zones between ecotopes. Dabas district is situated at the converging boundaries of four such micro-regions (*fig. 8*), whose geomorphology and landscape character are very diverse despite the similarities in their morphogenesis (formation processes, including surface erosion and accumulation): the Csepeli-sík [Csepel Plain], the Pesti-hordalékkúpsíkság, the Pilis–Alpári-homokhát, and the Kiskunsági-homokhát [Kiskunság sand ridge]. Their boundaries do not comply with strict categorical definitions based on the homogeneity of their geology, hydrological conditions, or land cover, as each comprises a mix of heterogeneous landscape features. The district (*járás* in Hungarian) of Dabas as an administrative unit (formerly *Pesti közép járás*, *Alsódabasi járás*) is dissected by the Pleistocene valley of the Danube in a few kilometres-wide band, characterised by low-lying wetlands, ridges and scarps, marshes, dunes, and bogs and lakes, all shaped by fluvial influences. Such landscape elements – historically referred to as ‘*turján*’ – extend in the south as far as Solt.

<sup>30</sup> Sára 2018 38; ‘*Borjújárás*’, ‘*Bika-rét*’ and ‘*Bitófás-dűlő*’ translate as ‘calves path’, ‘bull-meadow’, and ‘gallows tree-field’ (i.e., with pollarded trees).

<sup>31</sup> Cf. Blazovich 1985 85; Dávid 2013 255–256; Mészáros – Hausfater 1974 219; Pánya – Rosta 2015 249.

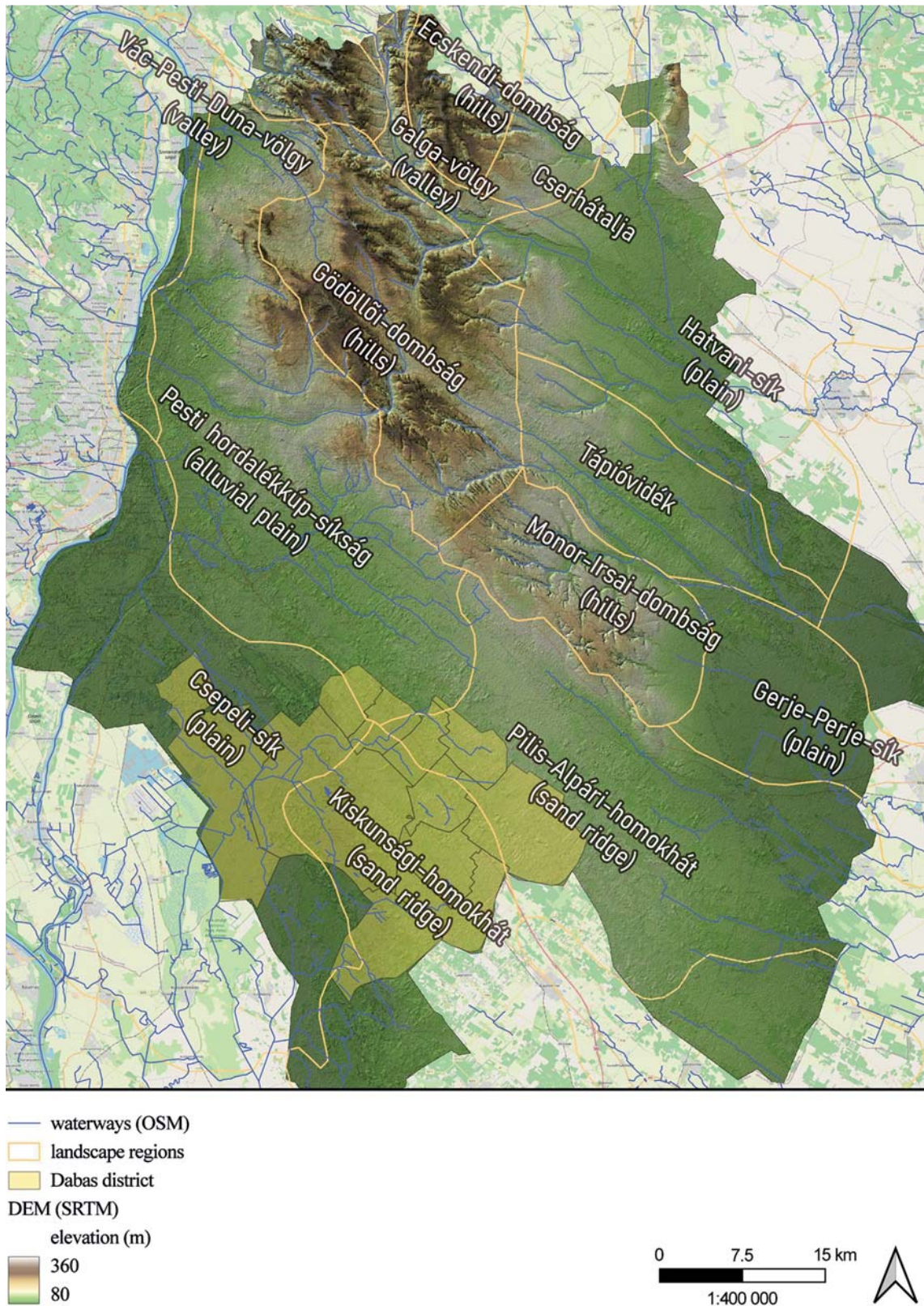


Fig. 7. Micro-regional boundaries in Pest County (©László Ferenczi)



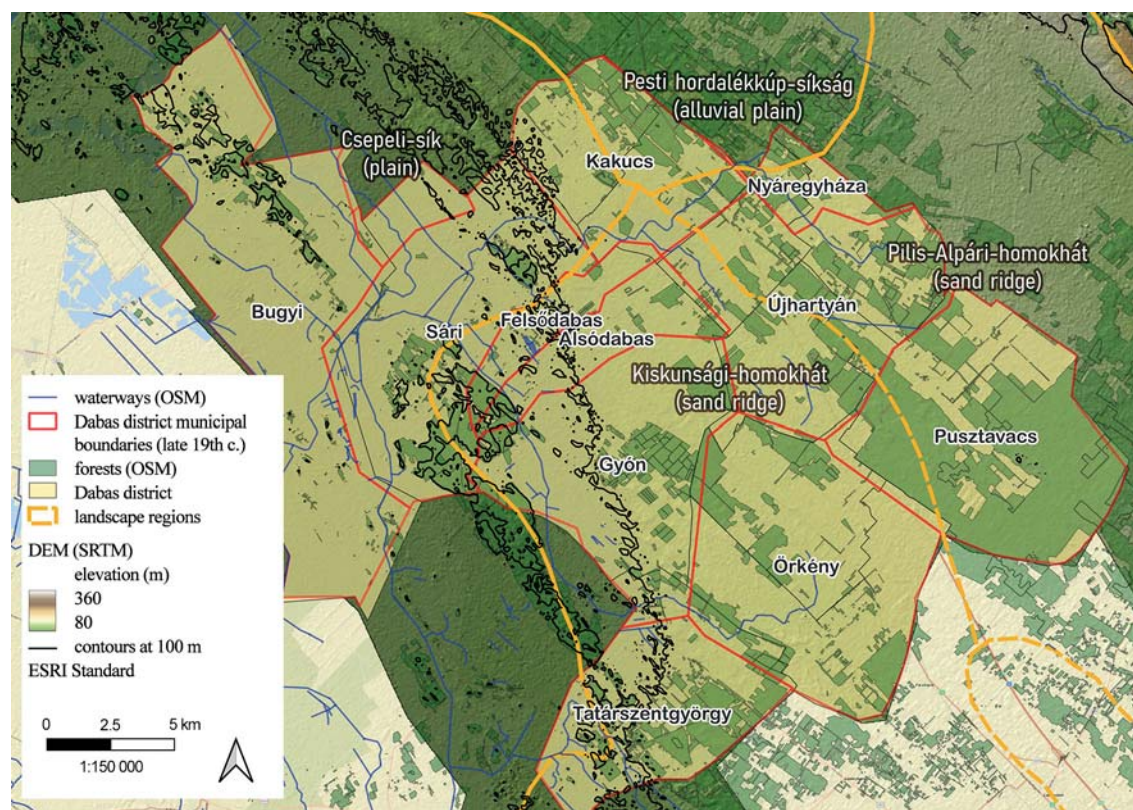


Fig. 8. Micro-regional boundaries and administrative/municipal boundaries in the study area (Dabas district) (©László Ferenczi)

### *Archaeological surveys*

Systematic archaeological topographical investigations began with the preparation of the volumes of Archaeological Topography of Hungary; however, this programme was terminated in the 1990s, covering only some area of the county (northern and north-western parts, including the districts of Aszód, Gödöllő, Buda, Szentendre, Szob, and Vác).<sup>33</sup> Parallel to that, Katalin Irásné Melis<sup>34</sup> published a comprehensive inventory of archaeological sites within the administrative/municipal boundaries of Budapest, which has become considerably outdated. Since then, there have been attempts, in the form of multidisciplinary studies combining historical topographical data with the results of archaeological surveys, at getting a better understanding of the medieval settlement development in the region;<sup>35</sup> however, the scope of these surveys was rather local, did not have the resources of the Archaeological Topography project, and focused on different neighbouring regions of the Danube–Tisza Interfluvium. Reconstructions of the medieval settlement network in Pest County did not look into landscape conditions or natural-environmental factors in detail. Thematic archaeological topographical works focused mostly on ecclesiastical topography and castles<sup>36</sup> and did not employ a holistic approach in the research of settlement networks. At the same time, the increasing role of development-led archaeology ensured a constant accumulation of archaeological data; besides, it also proved that our knowledge on the archaeological topography

<sup>32</sup> Janata 2018.

<sup>33</sup> MRT 7; MRT 9; MRT 11.

<sup>34</sup> Irásné Melis 1983.

<sup>35</sup> See Bálint 1998; Bálint 2006; Pánya – Rosta 2015; Pánya 2022; Rosta 2014; Sárosi 2016.

<sup>36</sup> Tari 2000; Kovács 2022.

of the area still has considerable gaps. For example, the evaluation of the Árpád Age material excavated in the path of the then-future motorway M0 allowed specifying the characterisation of dwelling structures and settlement forms.<sup>37</sup>

Our first survey in Dabas district took place in September 2008 upon public request. Since the early 2010s, there has been a growing demand from the general public to be actively involved in archaeological fieldwork. According to legislative changes introduced in 2015–2016, archaeological metal detector surveys can only be carried out under museum control; therefore, many museums organised ‘friendly’ metal detectorists (enthusiastic about working together with museum professionals) into active teams which provide valuable assistance in identifying and exploring sites. Since then, we have been conducting field surveys on a regular basis with the help of volunteers from the region, partly in addition to planned excavation projects. Our Community Archaeology Programme aims, in particular, to validate field data obtained by volunteers on archaeological sites, with a priority on highly vulnerable sites prone to surface erosion related to agricultural cultivation or illegal looting.<sup>38</sup> Systematic field surveys have been carried out formerly in the Ócsa Landscape Protection Area,<sup>39</sup> a natural geographic unit comprising the northern fringes of Dabas district. At present, all major medieval archaeological sites there have been identified and mapped, and the region has been systematically surveyed. Altogether, 87 sites in Dabas district could be dated to the Middle Ages. With the help of volunteers, forty new sites have been discovered, and the spatial data concerning the previously identified ones have been validated through intensive fieldwork (*fig. 9*). These surveys allow us to draw general conclusions about the medieval inhabitation of the region, including the density and intensity of sites. One can assume that the discovery of any potentially unidentified site will not significantly alter the overall image of the settlement topography as outlined today.

Apparently, the relatively small area of the administrative district of Dabas and the number and distribution of archaeological sites within are insufficient for a quantitative spatial analysis; therefore, one has to look further to put the archaeological topographical results in context. Relying on the inventory of registered archaeological sites (using the archival database of the Hungarian National Museum), a zone-based statistical evaluation of the elevation values of site polygons (obtained from digital elevation models) representing different site groups classified as medieval (Árpád Age/Early Medieval, Medieval, or Late Middle Age)<sup>40</sup> has been carried out (*fig. 10*) to illustrate differences between the micro-regions in Pest County, focusing on vertical displacement, which has been studied already in other regions of the country. Data from the different plain regions in Pest County has confirmed the tendency observed elsewhere, namely that late medieval settlements were generally located on higher grounds compared to Árpád Age sites; however, in the region of the Gödöllői-dombság, this pattern could not be detected due to the entirely different character of the landscape. Furthermore, using a point pattern analysis method (hub distance measurements; *fig. 11*), it could be demonstrated that Árpád Age sites were typically closer to [cat. 7] settlements; this should be taken into consideration as another spatial parameter when characterising [cat. 7] settlements and thinking about diachronic processes which could have played a role in shaping their spatial distribution.

---

<sup>37</sup> Ráczi 2019a.

<sup>38</sup> Ráczi 2019b 150–151.

<sup>39</sup> Füredi – Ráczi 2021.

<sup>40</sup> This categorisation is also applied in the volumes of *MRT*. ‘Medieval’ may refer to sites with an uncertain chronological position based on surface finds and which span over the two phases of the Medieval Period.



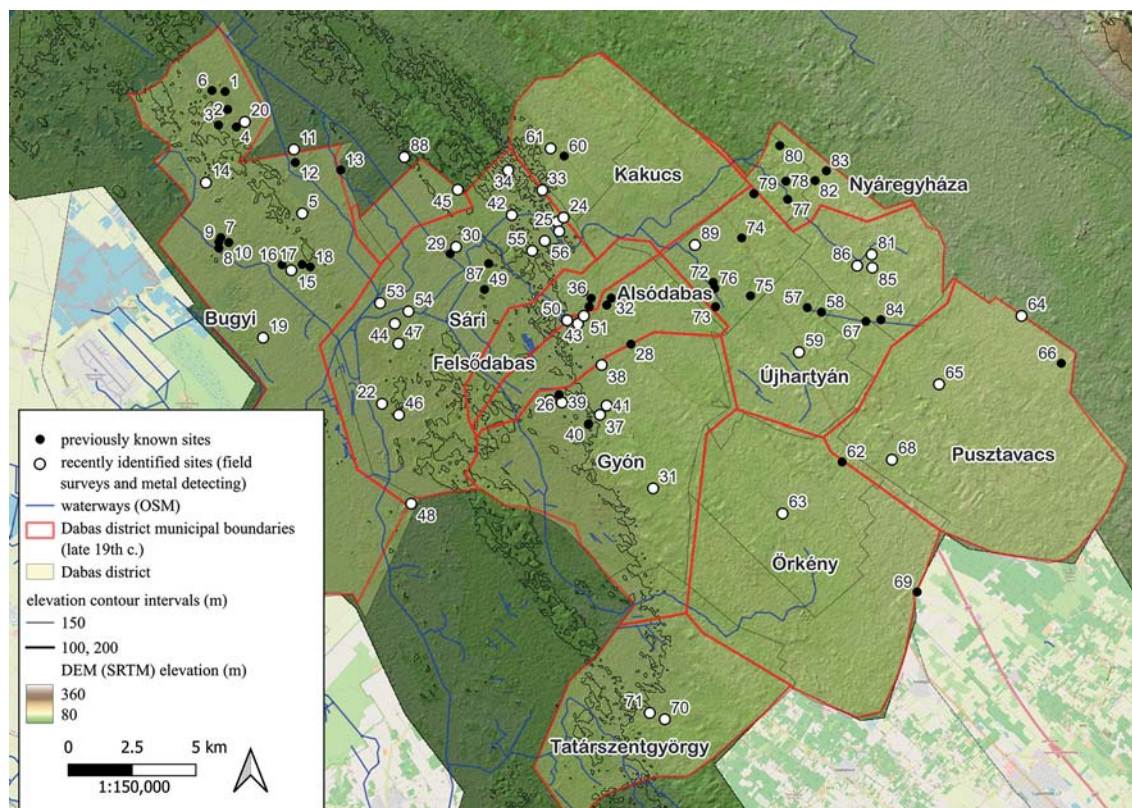


Fig. 9. Distribution of medieval sites (previously inventoried vs newly discovered) in Dabas district.

1. Bugyi-Alsóvány 1; 2. Bugyi-Alsóvány 2; 3. Bugyi-Alsóvány 4; 4. Bugyi-Alsóvány 5; 5. Bugyi-Erdőalja-dűlő; 6. Bugyi-Felsővány 1, Széles-föld; 7. Bugyi-Kender-földek 1; 8. Bugyi-Kender-földek 2; 9. Bugyi-Kender-földek 3; 10. Bugyi-Kender-földek 5; 11. Bugyi-MOL 3 Kálmán-domb; 12. Bugyi-MOL 5; 13. Bugyi-MOL 6; 14. Bugyi-Páskomi-dűlő; 15. Bugyi-Telek-pusztá 2; 16. Bugyi-Telek-pusztá 3; 17. Bugyi-Telek-pusztá 4; 18. Bugyi-Telek-pusztá 5; 19. Bugyi-Ürbőpuszta; 20. Bugyi-Vány; 21. Dabas, Belső-dűlő; 22. Dabas-Berény-dűlő; 23. Dabas-Csikós-pusztá 1; 24. Dabas-Csikós-pusztá 2; 25. Dabas-Csikós-pusztá 3; 26. Dabas-Dabas 3; 27. Dabas-Dabas 4/1; 28. Dabas-Dabas 5; 29. Dabas-Dabas 7/1; 30. Dabas-Dabas 7/3; 31. Dabas-Esső falu; 32. Dabas-Felső Székes-dűlő; 33. Dabas-Felsőbesnyő, Besnyő falu; 34. Dabas-Felsőbesnyő, Zsolnai-tanya; 35. Dabas-Fertályos-földek 1; 36. Dabas-Fertályos-földek 2; 37. Dabas-Gyón; 38. Dabas-Gyón, Csiga-sziget; 39. Dabas-Gyón, Pap-hegy; 40. Dabas-Gyón, Telek-dűlő 3; 41. Dabas-Gyón, Telek-dűlő Templom-domb; 42. Dabas-Hosszúhát-dűlő; 43. Dabas-Közép-domb; 44. Dabas-Mántelek; 45. Dabas-Nagyturján-Vársziget; 46. Dabas-Olaj-hegy; 47. Dabas-Paszttyérik-hegy; 48. Dabas-Pipiske-hegy; 49. Dabas-Sári vadászház; 50. Dabas-Szennyvíz-telep; 51. Dabas-Templom-domb Fertályos-földek; 52. Dabas-Templom-dombtól keletre; 53. Dabas-Vaczlau-hegy; 54. Dabas-Varjú-rét; 55. Dabas-Venczelkei-dűlő; 56. Dabas-Venczelkei-dűlő 2; 57. Hernád-MOL 1; 58. Hernád-MOL 2; 59. Hernád-Telek-dűlő; 60. Inárcs-Rákóczi utca; 61. Inárcs-Szent György-templom; 62. Örkény-Euroring mellett 1; 63. Örkény-Templom-domb; 64. Pusztavacs-Dánszentmiklós, Tetves-halom; 65. Pusztavacs-Hunyadi-tér, középkori templom; 66. Pusztavacs-MOL 1; 67. Pusztavacs-MOL 4; 68. Pusztavacs-Nagy-rét; 69. Táborfalva-Kőhalomtól északra; 70. Tatárszentgyörgy-Szelecky-tag; 71. Tatárszentgyörgy-Zádócegyháza; 72. Újhartyán-Hosszú-földi erdő 4; 73. Újhartyán-Kese-pereg; 74. Újhartyán-M5 autópálya, útdíjfüzető; 75. Újhartyán-MOL 10; 76. Újhartyán-MOL 4; 77. Újhartyán-Nyáregyházi út 1; 78. Újhartyán-Pótharaszti 5; 79. Újhartyán-Pótharaszti patak 2; 80. Újhartyán-Pusztatemetői határ; 81. Újlengyel-Kosztolányi-Gudmon-dűlő; 82. Újlengyel-M5 4/28; 83. Újlengyel-M5 4/3; 84. Újlengyel-MOL 3; 85. Újlengyel-Nádi-dűlő; 86. Újlengyel-Vatya; 87. Dabas-Méntelegi u. 2.; 88. Ócsa-Kincses-hegy; 89. Újhartyán, Kántor-földek (©László Ferenczi, ©Tibor Ákos Rácz)

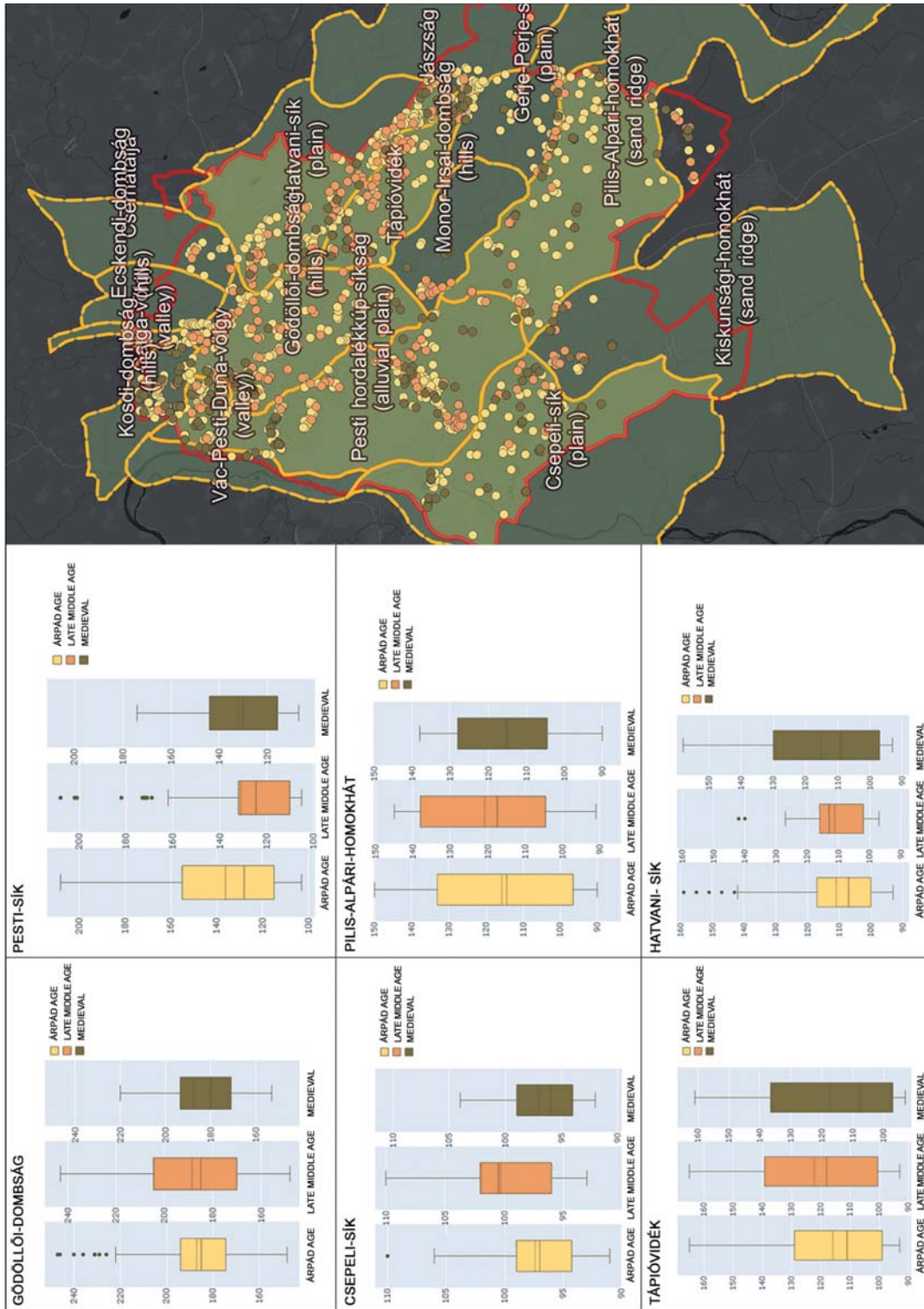
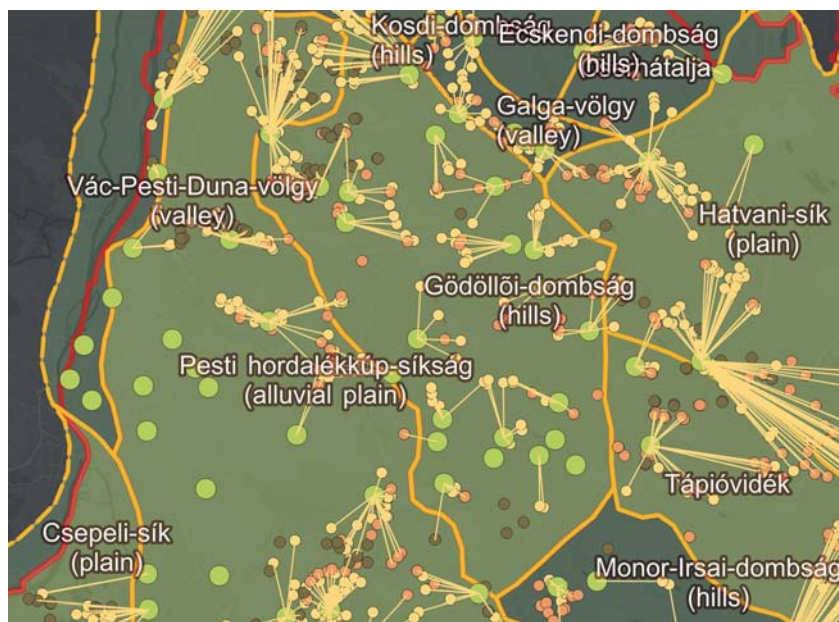


Fig. 10. Elevation-based evaluation of Árpád Age and late medieval settlements in the different micro-regions of Pest County (©László Ferenczi)





HUB DISTANCE OF CAT 7 SETTLEMENTS TO SITES

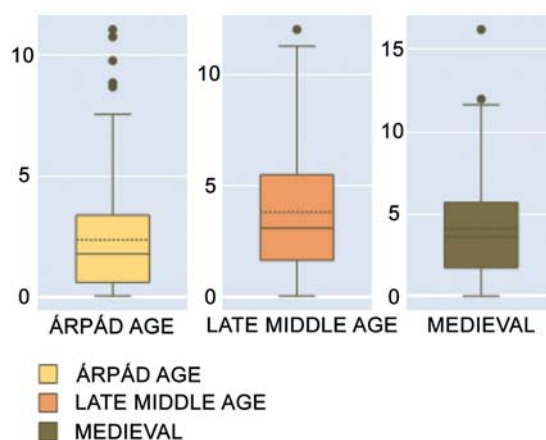


Fig. 11. Hub distance analysis between [cat. 7] settlements and archaeological sites, showing a shorter average distance in the case of Árpád Age sites (©László Ferenczi)

### *Topographical data on medieval roads and settlements in the district of Dabas*

In the Medieval Period, Dabas district was not a coherent historical or administrative unit. There is no information in the sources on towns, market towns, castles, or monasteries within this area. Without exception, the settlements under study are villages or smaller farmsteads representing the three categories discussed above. Besides, they belonged to different landholdings (royal, ecclesiastical, or secular domains), where the legal and social status of the inhabitants differed. From material culture's point of view, it is an intriguing question whether such differences can be detected through a quantitative analysis of small finds (metal finds in particular).

Apparently, there are fundamental problems with interpreting the historical and archaeological records, mainly due to issues with representativity, data fragmentation, and taphonomy. The earliest phase of the settlement network is only partially documented in written sources. Only about a dozen settlements appear in available pre-13th-century sources concerning the district.

By the 13th century, however, the settlements had gone through considerable changes (contraction due, e.g., to the impact of the Mongol Invasion) and some locations had not stabilised yet. Hardly anything but archaeological information is available on the period before the Mongol Invasion. Until recently, most of this information came from field surveys focusing on surface collecting of pottery sherds, a method typically implying considerable problems concerning the precise dating of said sherds; in other words, it has been difficult to establish a detailed chronology based on surface pottery finds. This is exactly why metal detector surveys and collecting metal finds can be particularly important, as they may provide a means for specifying the dating of a site.

Despite the large amount of archaeological data collected thus far, we still consider the settlement network of the Árpád Age obscure. As elsewhere in the country, small, dispersed farmsteads and temporary/short-lived settlements characterised the 10th and 11th centuries. Surface surveys have detected these as scattered, low-intensity sites (in terms of the number of surface finds). The relatively high number of such sites (compared to the late medieval horizon) is also a well-documented phenomenon, associated with shifting cultivation, a characteristic of the agricultural exploitation strategy in this period.<sup>41</sup> The identification of the surface traces of these early settlements requires meticulous work. In contrast, on late medieval settlement sites, one can collect hundreds of metal artefacts and a huge amount of pottery, which makes it generally much easier to make reliable or accurate inferences concerning their location and dating using surface archaeology than in the case of earlier sites. Evidence from the Ócsa Landscape Protection Area in the northern part of Dabas district<sup>42</sup> has demonstrated that during the period following the Hungarian Conquest, small settlements appeared in places suitable for habitation/agricultural cultivation, as indicated by a minimal amount of pottery and metal artefacts.

In the 13th century, the settlement network became transformed due to social, economic, and climatic changes.<sup>43</sup> Larger settlements consisting of interconnected households emerged, as reflected by the diversity represented by larger and smaller sites (including villages and hamlets/farmsteads/manors), some of which had settlement nuclei around their church. These larger settlements can be described as stable villages, and they also appear in the written sources, albeit their names and owners are mentioned with varying frequency. In Dabas district the names of 23 medieval settlements and possessions have been documented (Besnyő, Bugyi, Cibakháza, Csíkos, Dabas, Esső, Foglár, Gyón, Hartyán, Hernád, Hetény, Inárcs, Kakucs, Mántelek, Örkény, Ráda, Sári, Tatárszentgyörgy, Tördemic, Vacs, Vány, Vátya, and Zádog). In most cases, their locations could be identified by metal detector surveys carried out with volunteers, and it was also possible to reconstruct the medieval road and settlement network connecting them (*fig. 12*). In total, eleven medieval churches are known in Dabas district, six of which were identified by fieldwork. All excavated ones were found to have existed in the 13th century.<sup>44</sup>

Mapping the medieval settlement network involves problems related to the reconstruction of the road system. While settlements can be identified with a high degree of certainty based on archaeological surveys and finds, roads cannot. Accordingly, any reconstruction must be based on inferences relying on the topographical context. As mentioned above, a significant part of this natural landscape has been characterised by sand hills, marshes, and peat bogs, which were unsuitable for permanent habitation in medieval times and difficult to cross. Upon studying the maps of the Habsburg Military Surveys, it becomes apparent that all transport routes avoided

<sup>41</sup> Szabó 1966 30–31; Laszlovszky 2008 67–68; Rác 2019a 156–159. Such a settlement/site (and practice) from the study area (Némedi/Nevegy) is mentioned in the canonization trial of Saint Margaret in connection with the household of a lesser noble who, allegedly, lived in poverty; see Laszlovszky 2010 114–118.

<sup>42</sup> Füredi – Rác 2021.

<sup>43</sup> Laszlovszky 2008; Laszlovszky 2018.

<sup>44</sup> Tari 2008; Rác 2014.



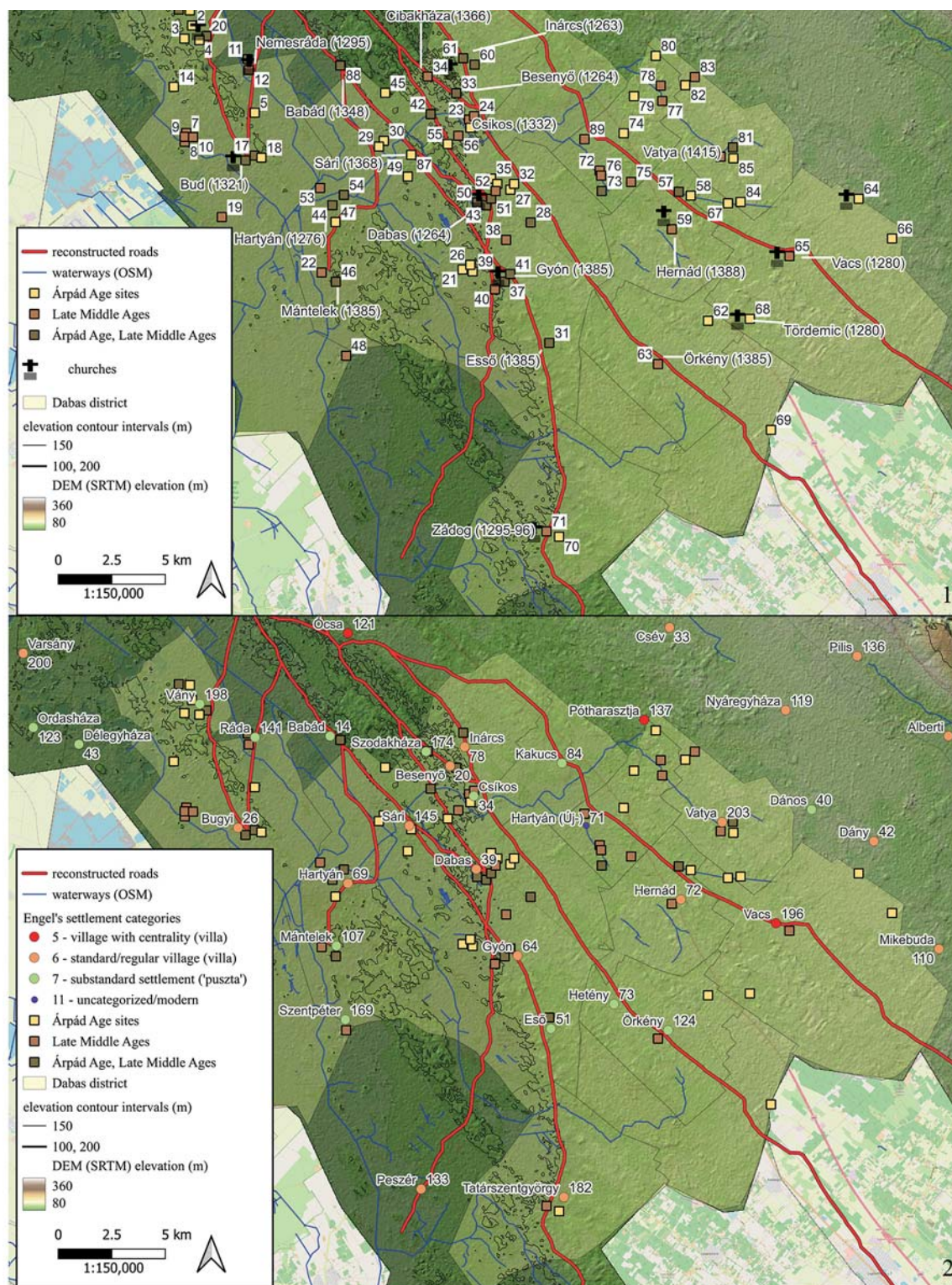


Fig. 12. Reconstruction of the medieval settlement network (Árpád Age and late medieval settlements, churches, and roads) in Dabas district, based on 1: Documents and 2: Archaeological finds  
(©László Ferenczi, ©Tibor Ákos Rác)

these parts of the terrain. Some roads on these maps most likely had a medieval origin, which can be confirmed in some cases through references in medieval documents or indirectly, by the location of the medieval settlements and churches aligned with them.<sup>45</sup> Several radial roads ran south-east of Pest, connecting the settlements in the region and further south-east. Their importance varied; some roads connected distant centres, such as Kecskemét and Szeged, while others were of local or regional importance. Medieval perambulations tend to mention the direction of the major roads, which helps identify them. However, it is beyond the scope of the present essay to provide a very detailed reconstruction of the road network, as the geographical limits of such an investigation would necessarily reach beyond the study area and would require a more thorough evaluation of available cartographical and historical sources. Instead, we focus here on the information obtained from medieval documents.

One of the most important contemporary sources is a charter of King Béla IV from 1264, in which he donated the lands of Gyón, Taton, and Kemej to the Premonstratensian monastery of Csút/Csöt.<sup>46</sup> The donation was renewed by King Stephen V in 1272.<sup>47</sup> Both charters describe the borders of the villages north of Dabas district and list the villages south-east and south of them, which makes it possible to identify the orientation of the roads within the district precisely.

- (1) The most northerly was the main road leading from Fonchol towards the village of Tölgy (*ex inferiori parte ipsius Fonchol incidit in viam magnam, per quam itur ad villam Thulgh*). The Árpád Age village of Tölgy lay outside Dabas district, within the modern day-boundary of Nagykőrös;<sup>48</sup> it is known from field surveys and has a very rich archaeological heritage, indicating its importance in the period. It does not appear in later documents, and its boundary merged with that of Nagykőrös. Intermediate stations along this road are not mentioned in the document, but its endpoints suggest that it ran somewhere in the vicinity of Hernád, Vanya, Vacs, and Tördemic in the direction indicated. This road is not identical to the one leading from Pest to Kőrös via Pótharasz, but the two roads possibly joined near Vacs.
- (2) According to the same perambulation, the road to Szeged (*qua via itur in Zege*), known today as the Old Highway (*Öreg országút*), was located south of the route described above. It went through Örkény to Kecskemét and from there to Szeged. As its name indicates, it was a superior road of national importance. There are hardly any settlements along its path, presumably because it connected the major centres by the shortest possible route. It is still in use today, starting from Ócsa and running between present-day Inárcs and Felsőbesnyő, bypassing Dabas from the north-east and joining the main road (Route 5) near Hernád below Dabas. Modern manuscript maps call it *via postalis versus Kecskemét*. Its route is clearly indicated on the maps of the First Habsburg Military Survey and probably corresponds exactly to the late medieval route. This road bypasses Dabas and Hernád, which were both relatively important in the Middle Ages; Besnyő and Csíkos were accessible by a branch, and only Inárcs and Örkény were actually crossed. In the 13th century, its northern section presumably did not follow the route east of the marshes, which is still in use today, but went through the marsh, bypassing the Árpád Age villages of Taton and Besnyő.<sup>49</sup>
- (3) Based on the data of the 1264 charter, a ‘major road’ (*magna via*) was situated southwest of the Szeged Route. It is mentioned twice in the charter, once at the northern border of the

<sup>45</sup> See Stibrányi 2008; Szilágyi 2014; Pánya – Rosta 2015; Pánya 2022.

<sup>46</sup> MNL OL DL/DF 208789; Bártfai Szabó 1938 10–11; Bakács 1982 48–51; Györffy 1998 519; Füredi – Rác 2021 128–131.

<sup>47</sup> MNL OL DL/DF 248411.

<sup>48</sup> Novák 2015 40, 78.

<sup>49</sup> Füredi – Rác 2021 131.



estate (...cca magnam viam, qua vadit de Pezen et Dobos...) and once at the southern (*ad viam que venit de Pezer et Babas*). The 1368 division of Besnyő also mentions the road to Dabas, which passed through the settlement.<sup>50</sup> It appears in the 1817 map by József Decsy as the road from Ócsa to Dabas.<sup>51</sup> Its position can be reconstructed very accurately from that: it led from medieval Ócsa through the present-day landscape protection area, passing by the Árpád Age settlement of Kemej and the late medieval Cibakháza towards Besnyő and Dabas, and continuing to Peszér.

- (4) Finally, one may assume that there was a road junction at Dabas because, in addition to the southern road to Peszér and the Szeged road running straight towards south-east, one could also go in the direction of the medieval villages of Gyón, Esső, Zádog, and Baracs further south. Today, this road of medieval origin connects Dabas with Tatárszentgyörgy, which was founded relatively late.
- (5) Furthermore, another road of local interest also reached Dabas from the western side of the Ócsa *Nagyturján* [Big Marsh], starting from Némédi/Nevegy via Babád and Sári. This road matches perfectly the relevant section of the present-day Route 5, the main road between Alsónémédi and Dabas. The locations of Babád and Sári are also known.<sup>52</sup> The last two routes are not mentioned in medieval documents; their paths could be reconstructed based on the location of medieval sites and the indications of modern maps.
- (6) The same can be said about the north-south roads reconstructed in the western part of Dabas district; however, their exact localisation is highly problematic. The path of the Nevegy–Babád–Sári–Dabas road could have branched off at Babád towards Hartyán and Mántelek in the south. The most important settlement in the western part of the district was Bugyi (the medieval Budimátyásföldre). The position of archaeological sites in the area suggests that probably two roads connected Nevegy and Bugyi, one through Vány and the other through Nemesráda. The roads on the maps of the First Habsburg Military Survey connect two archaeological sites that correspond to the two church sites.

In the next part, the description of the settlements connected by the roads follows the same topographic order, from north to south:

Along the northern road (1), the medieval site of Vanya, in the territory of today's Újlengyel, became famous a few years ago for a medieval 7,000-piece metal hoard; besides, metal detectorists recovered a number of other medieval metal finds from the area of the village. The perimeters of the site were delineated by subsequent fieldwork campaigns.

Hernád was first mentioned as a noble village in 1388,<sup>53</sup> while another document from 1409<sup>54</sup> mentions its church dedicated to the Holy Cross. As demonstrated by our field survey results, it was mostly likely of late medieval origin, as no Árpád Age finds were discovered in the area. In February 2014, an intensive field survey was carried out there, and the extent of an extremely rich settlement was defined (Site ID No. 85641).<sup>55</sup> Prior to the fieldwork, our metal detectorist community had already recovered a large amount of metal finds, including a Roman gold ring and two medieval gold coins, from the territory of the village.<sup>56</sup> The site is on the outskirts of present-day Hernád, northeast of motorway M5, in an irregular, rectangular, large field bounded by dirt roads. The finds were concentrated on two ridges; the depression between them could

<sup>50</sup> MNL OL DL/DF 41755; *Bártfai Szabó 1938* 82–83; *Bakács 1982* 238–239.

<sup>51</sup> *Decsy 1817; Füredi – Rácz 2021* 134.

<sup>52</sup> *Füredi – Rácz 2021* 127–128.

<sup>53</sup> MNL OL DL/DF 45014; *Bakács 1982* 280–281.

<sup>54</sup> MNL OL DL/DF 42972.

<sup>55</sup> Identification number in the Central Register of Archaeological Sites in Hungary.

<sup>56</sup> *Bózsa 2021; Kálnoki-Gyöngyössi 2015*.

have been a lake or a bog in medieval times. On the northern ridge, surface remains of several late medieval dwellings (indicated by patches of charcoal flakes) could be observed on the degraded surface, in a row, alongside each other. On the southern ridge, 160 m northeast of the motorway, building rubble and bone fragments indicated the site of a church and a graveyard.

Vacs was mentioned first in 1280, when it appeared together with Tördemic (*terram Och vocatam prope Poudharasta similiter et terram Turdemech inibi existentem*). In 1284, King László IV issued a charter near Vacs.<sup>57</sup> In 1415, it is mentioned together with *Vathya*.<sup>58</sup> The medieval marketplace may have been next to the medieval church ruins of present-day Pusztavacs. Until 2023, the Gothic church tower was not listed in the public register of monuments.

Tördemic, mentioned in the 1415 charter as *praedium Thwredemez/Thjurademez*, can be identified as the Árpád Age site of Pusztavacs-Nagy-rét<sup>59</sup> on the southern periphery of today's Pusztavacs. It is mentioned together with Vacs, which makes the identification probable. The previously uncultivated parcels of the Pusztavacs-Nagy-rét forest have been subject to repeated logging and stumpage since 2015, resulting in significant soil disturbance. The site was discovered by museum-friendly metal detectorists, who also identified the traces of the church on an elevated part of the ground. In 2017, metal detectorists discovered there a virtue bowl and several other significant artefacts.<sup>60</sup> The locations of some houses were also identified after clearing off the wood. Only Árpád Age finds were found at the site.

Starting from north, the first medieval settlement along the road to Szeged (2) is Inárcs. It appears in the sources in 1263, when King Stephen the Younger elevated Paul, Thomas, Feney, and Omb to the rank of *iobagiones castri* in the village (*villa*) of *Inarch*.<sup>61</sup> The site is located on the outskirts of present-day Inárcs, partly within the Ócsa Landscape Protection Area, occupying several adjacent mounds in an area of 1,100 by 700 m.<sup>62</sup> The extent of the site was determined by consecutive field surveys. It is a multi-period site, and unusually large. It is divided roughly in the middle by the medieval road running north-north-east to south-south-west. The nucleus of the settlement was on the mound east of the road, now with a ruined church and a graveyard, while surface finds became increasingly sparse with distance in all directions. Another find cluster was discovered west of the medieval road; it represents the south-western quarter of the site, where mostly Árpád Age sherds and a few pieces of 14th–15th-century pottery were found. In addition to pottery fragments, some archaeological features were visible in the growing wheat there. The church of the settlement has been known for a long time and was excavated<sup>63</sup> but the archaeological site has only been registered recently.

The village of Besnyő (*Bessenew*), first mentioned in the 1264 perambulation, is situated about 1600 m south of the church of Inárcs, in the territory of Felsőbesnyő, now part of Dabas. Several related mentions are known from the 14th century. In 1329, the nobles of Pilis and Bicske<sup>64</sup> acquired a part of Besnyő from Jakab, son of Barnabás. In 1368, the estate was divided in two parts owned by several landowners.<sup>65</sup> In 1468, parts of Besnyő were administered together with

<sup>57</sup> MNL OL DL/DF 261478; Györffy 1998 561–563; Bakács 1982 355.

<sup>58</sup> MNL OL DL/DF 10362; Bakács 1982 355; *Wach cum possessione Wathya vocata in territorio possessionis Wach habita*.

<sup>59</sup> Site ID No. 98791.

<sup>60</sup> *Herbst 2021*.

<sup>61</sup> MNL OL DL/DF 105832; Györffy 1998 521–522; Czagányi – Kulcsár 1995 91–93; Füredi – Rác 2021 127.

<sup>62</sup> Site ID No. 33310.

<sup>63</sup> *Tari 2008*.

<sup>64</sup> MNL OL DL/DF 41755; Bakács 1982 144.

<sup>65</sup> MNL OL DL/DF 41755; Bártfai Szabó 1938 82–83; Bakács 1982 238–239.

parts of Vány.<sup>66</sup> The village is located 3 km south-east of Kemej,<sup>67</sup> which is also mentioned in the 1264 charter and has been identified by field surveys. Based on charters, modern maps, and surviving toponyms, the location of the village is clear. The site was identified by metal detector volunteers and authenticated by fieldwork.<sup>68</sup> Both Inárcs and Besnyő are multi-period sites, also including prehistoric and Sarmatian settlement remains. The Early and Late Árpád Age settlements are clearly distinct within the site. As Árpád Age settlements are characterised by a high degree of mobility, the 13th-century settlement names cannot be connected unequivocally with the discovered settlement traces. Metal finds indicate that a relatively intensive settlement existed there before the foundation of the Hungarian state; it was located on the north-western perimeters of the site complex. The related find material includes not only pottery fragments decorated with incised wavy lines but also coins dating from the period between the reigns of King (Saint) Stephen I and King Coloman. The late medieval village occupied the south-eastern part of the site. The distance between the Árpád Age and the late medieval parts of the settlement is about 600 m. The late medieval site covers an area of 1600 by 650 m, of which the settlement core is 500 by 220 m. In addition to pots, fragments of jugs and bottles were found there, while cup-shaped stove tiles and pieces of glazed pottery were collected on the hilltop. The Szeged road led east of the settlement core, and the Ócsa–Dabas road passed through it.

South-east of Inárcs and Besnyő, the road passed by Csíkos, which was mentioned first in the 14th century as the property of nobles from Inárcs: in 1332, the sons of Deme, Lazar, and Fene of Inárcs ceded a third of Csíkos (*Chykus*) to Farkas' son Pál.<sup>69</sup> The estate did not appear later, but in 1427, a field and meadow called *Chykos*, extending from the great road to *Chykoswth*, were mentioned near the church of St. George of Inárcs.<sup>70</sup> The name *Csíkos* has survived to the present day. The deserted lands of Csíkos, south of Inárcs, on dry land surrounded by a swampy peat bog from the south and west, appear on the maps of the First and Second Habsburg Military Surveys. Sporadic medieval finds have been uncovered there on three adjacent sites<sup>71</sup> during metal detector surveys in recent years. One site contained only medieval coins and no pottery. Judging from the quantity of finds and the scarcity of written mentions, the settlement probably did not exist for long.

Further south, no other medieval settlements were situated next to the road to Szeged until it reached Örkény, one of the least-researched settlements in Pest County from an archaeological point of view. Only three sites from its administrative area are listed in the official register, all of which were reported in 2014. The 1385 perambulation of Esső mentions *Ewrken*, but it is uncertain whether it was actually inhabited. Since 15th-century documents refer to it as *possessio*, it was most likely a village,<sup>72</sup> and in 1424<sup>73</sup> and 1490,<sup>74</sup> it was the property of the queen. In September 1951, a treasure of 51 Friesach *denarii* and six H199 *bracteate* were found there in a pot.<sup>75</sup> No medieval sites were discovered in the area, but during a survey campaign in 2019, a stone wall and human skeletal remains were identified in the centre of the settlement (the highest point of Örkény, on the broad top of a hill), indicating the site of the church. The wall remains were most likely part of a medieval church (or a mansion).

<sup>66</sup> MNL OL DL/DF 16689; *Bártfai Szabó 1938 253*.

<sup>67</sup> Site ID No. 98908.

<sup>68</sup> Site ID No. 98855.

<sup>69</sup> *Györffy 1998 514*.

<sup>70</sup> *Bakács 1982 393*.

<sup>71</sup> Site ID Nos. 99037, 99039, 99041.

<sup>72</sup> See *Szabó 1966*.

<sup>73</sup> MNL OL DL/DF 39284; *Bakács 1982 384*.

<sup>74</sup> *Bártfai Szabó 1938 298*.

<sup>75</sup> *V. Székely 1984 254; Tóth 2007 85*.

After the desertion of the Árpád Age settlements of the Csút/Csót monastic estate, the only late medieval settlement in the marshy terrain of the present-day Ócsa Landscape Protection Area was Cibakháza. In 1366, a piece of land was described in the land division of Besnyő as ‘adjacent to Szodakháza (*Zudakáza*)’.<sup>76</sup> Further references from the 14th century are also known.<sup>77</sup> The settlement was situated along the shortest route from Ócsa to Besnyő, which also connected Kemej with Ócsa and Besnyő. The toponym appears on the maps of the First and Second Habsburg Military Surveys as *Czibak háza puszta* and *Czibakpuszta*; it is situated in today’s Ócsa Landscape Protection Area, west of Channel XXV, immediately south-east of the Zsolna farm, stretching over a relatively small area on a small, only 380–400 m long and about 200 m wide ridge<sup>78</sup> where 13th–16th-century pottery fragments and metal finds were collected. However, the metal finds suggest that a settlement or cemetery existed there already in the 10th century. There was no organic relationship between the 10th- and the 13th–16th-century settlements. The placename with the suffix ‘-háza’ [‘house of...’] implies the inhabitation of the area and the development of a plot there in the 13th–14th centuries. The settlement did not grow into a regular village.

Dabas was also mentioned in 1264 for the first time, in connection with the road crossing it. Since 2007, the medieval settlement<sup>79</sup> and its church<sup>80</sup> have been regularly excavated,<sup>81</sup> and the results provide an excellent picture of the development and structure of the settlement.

Gyón is an exceptionally large Árpád Age and late medieval site,<sup>82</sup> situated on the south-eastern perimeters of present-day Dabas. It was first recorded in the 1385 perambulation of Esső. The settlement has been known for a long time. A Mongol Period treasure was uncovered there in 2012,<sup>83</sup> and a few years later, field surveys were conducted in its territory in connection with the looting of the site, resulting in retrieving a considerable amount of finds. The church and the graveyard,<sup>84</sup> now at the centre of modern-day Dabas, were also disturbed by sand mining. Here, too, surface surveys (including metal detector surveys) were carried out, yielding late medieval metal artefacts.

Esső and Zádog were both situated within the territory of today’s Tatárszentgyörgy, which was established only in the 15th century. Both could be identified relatively easily. First, the perambulation of Esső (*Essew*), ordered by Queen Elizabeth on 1 September 1385,<sup>85</sup> describes its boundary that stretched eastwards from a hill called *Halom* [mound] between Gyón and Esső, reached a small hill, and proceeded further to the east, towards the *Wakonfaya* forest and two boundary signs near *Thywys* [shrub], and then to another boundary mark separating Gyón, Esső, and Örkény. From there, it followed the road to Örkény, went southwards between Örkény and Esső to *Irtvány* [clearing], where boundary marks separated Örkény, Bene, and Esső. Here, the border turned between a pine and the *Ivantarya* hills towards a meadow called *Geneken*, bordering the abandoned church of Zádogház in the west, and then above the village of Peszér to a hill with Cuman pots underground (*in quo magnam anforam comanicalem subterrassent*),<sup>86</sup> which was the boundary between Esső and Zádogegyház. Turning northwards from there, the

<sup>76</sup> *Bártfai Szabó 1938* 80; *Bakács 1982* 231; *Füredi – Rác 2021* 131.

<sup>77</sup> *Bártfai Szabó 1938* 88; *Bakács 1982* 246, 294–295.

<sup>78</sup> Site ID No. 98771.

<sup>79</sup> Site ID No. 54543.

<sup>80</sup> Site ID No. 34326.

<sup>81</sup> *Rác 2013*; *Rác 2014*; *Rác – Németh 2021*.

<sup>82</sup> Site ID No. 34324.

<sup>83</sup> *Nagy – Rác 2016*.

<sup>84</sup> Site ID No. 54548.

<sup>85</sup> *Bakács 1982* 275; *Czagányi 1990* 41–43.

<sup>86</sup> On the use of such objects as boundary marks, see *Györffy 1921*.

boundary reached first Méneskút and next, the land of Peszér, then crossed a long ditch to the shrubs called *Rekettye* and, following an old road in the vicinity of Szentpéter and Mántelke, went back to the starting point. In 1407, the village was mentioned several times in connection with the incorporation of the land of István Kakas, son of Miklós Gyáli into the estates of Gyál and Esső (*Essew*).<sup>87</sup> The medieval village was identified by metal detector surveys.<sup>88</sup> Archaeological finds indicating its location were found at *Pusztá Felső Esső*, which appears in the map of the Second Habsburg Military Survey west of Örkény and south of Gyón. In the maps of the First and Second Habsburg Military Surveys, the road from Gyón to Tatárszentgyörgy passed through Esső.

The site of Zádog is indicated on the map of the Third Habsburg Military Survey as *Pusztá templom dűllő* [deserted church field], as it is also called today. The first reference is from 1295–1296 when noblemen from Zádog testified concerning the possession of Zajcsföld.<sup>89</sup> According to the charter from 1385 (mentioned above), it had already been deserted by then. A small monument was erected next to a dirt road on the presumed site of the church, but the archaeological site was not authenticated and registered until recently. Field surveys were carried out there in the autumns of 2020 and 2021. Typical 13th–14th-century finds were collected, including ceramic sherds and large quantities of metal objects. An Árpád Age church and cemetery were identified close to the late medieval village. The site of the early church was indicated by stone rubble and human bone remains. Several Friesach *denarii* were also found nearby, perhaps from a disturbed Mongol Period hoard.

Sári was situated on the road from Nevegy and Babád, southwest of Besnyő, north-west of Dabas, next to the marshes of the Sárvíz, from which the village took its name. In 1368, it was mentioned in context with the partition of Besnyő.<sup>90</sup> Like Gyón, its boundary has merged into that of Dabas. Today, the site of the village is covered by the modern settlement; it is most probably situated in the area of Méntelek Street,<sup>91</sup> where late medieval settlement traces and remains of a cemetery of unknown date have been discovered.

Hartyán borders Sári from the west and Bugyi from the east. Already in 1276, it was the land of the nuns of *Nyulak szigete* ([Island of Rabbits]; today's Margaret Island in Budapest): '*villas Harquiian et de Foglhar cum pertinentiis earundem*'.<sup>92</sup> Its boundary was described in 1386 in a land dispute between the nobles of Bugyi and the nuns.<sup>93</sup> Its northern boundary was 'three arrow shots away' towards Bugyi and in the east, and three boundary markers at a great distance separated the lands of the nuns, Sári, and Dabas. In the south, further boundary markers could be seen by a long ditch, also at a great distance, the lands east of which belonged to Dabas, while the ones west of it to the nuns. At last, further south, the land of the nuns bordered Ürbő. To the west, 5,000 paces away, the perambulation mentions the *Kun* [Cuman] road reaching the border of Bugyi again. This southern part is the disputed land, the exact location of which cannot be determined, as the document does not mention any surviving/related toponym.

According to military survey maps, an extensive swamp with islands (Hosszú-sziget, Ugró-sziget, Nagy-szál-sziget, Nagy-sziget) stretched between Bugyi and Sári; its eastern side was bordered by smaller and larger sand hills (Vaclav-hegy, Olajos-hegy, Juhász-hegy) where archaeological sites have been identified, including Hartyán,<sup>94</sup> with Árpád Age and late medieval finds. An Árpád Age coin and a handle cover plate of a medieval knife have been found on the

<sup>87</sup> MNL OL DL/DF 99608; Bakács 1982 336–337.

<sup>88</sup> Site ID No. 99051.

<sup>89</sup> Györffy 1998 563.

<sup>90</sup> MNL OL DL/DF 41755; Bártfai Szabó 1938 82–83; Bakács 1982 238–239.

<sup>91</sup> Site ID No. 54541.

<sup>92</sup> MNL OL DL/DF 942; Györffy 1998 520.

<sup>93</sup> Bártfai Szabó 1938 97–98; Bakács 1982 276.

<sup>94</sup> Site ID No. 99065.



adjacent Pasztyérik-hegy [Pasztyérik Hill],<sup>95</sup> and the village most likely extended over these hills, too. These locations – a string of ridges – are very likely marking the path of a route to the south. Today, the Duna-völgyi-főcsatorna is the only reminder of the once marshy landscape.

Újhartyán [‘New’ Hartyán] is located northeast of Dabas, right next to motorway M5, thirteen kilometres east of Hartyán. The people of Hartyán appear in 15th-century documents, for instance, acquiring an estate in Hernád,<sup>96</sup> but there is no written record of the entire settlement being relocated. A large amount of late medieval pottery fragments were found in Újhartyán, Kántor-földek, so the relocated village can be precisely identified archaeologically. They settled there sometime in the late Middle Ages, and at the same time, the Árpád Age settlement of Hartyán withered away and was seemingly replaced by Mántelek.

Mántelek appears in the 1385 perambulation of Esső north-west of it and west of Gyón. According to the 1386 perambulation of Hartyán, the area between Bugyi and Sári, south of Babád, was clearly occupied by Hartyán; therefore, Mántelek is to be located further south. However, the identification is difficult because the area south of Sári is now called Mántelek, and the name Hartyán does not appear in the area where it was located according to the 1386 document. The relative position of the two villages is uncertain; moreover, in early research, the Hartyán site was mistaken for Mántelek. However, based on the above, Mántelek is more likely located in the area of the Berény-dűlő<sup>97</sup> or Olaj-hegy<sup>98</sup> medieval sites.

Foglár was mentioned together with Hartyán in 1276 without a precise reference to its location.<sup>99</sup> No later reference is known; the name might be an occupational placename but is also known to have been a personal name. The settlement may have been situated somewhere in the northern part of the area between Bugyi and Sári.

Ráda first appeared in documents at the end of the 13th century,<sup>100</sup> and it was frequently mentioned later, for example, in 1322,<sup>101</sup> 1332,<sup>102</sup> 1434<sup>103</sup> and 1490.<sup>104</sup> The medieval Ráda lay in the administrative area of today’s Bugyi and can be identified with MOL Site ID No. 3,<sup>105</sup> as supported by the toponym Nemesráda, which can be localised there and was also given as a site name for the neighbouring prehistoric settlement in the 1980s. Maps of the Habsburg Military Surveys have recorded the name as *Ráda puszta* [abandoned Ráda]. Together, Bugyi-MOL Sites no. 3, 5, and 6 may be the relic of the medieval village, with the most intensive settlement part being on Site 3. The central part of the site covers a relatively high hill with a north-south ridge which locals call by Kálmán-hegy [Kálmán Hill] after its owner. Dirt roads run northwest–southeast on both sides of the hill. The most intensive part of the site lies between the roads, extending over a large area. Early Árpád Age finds are completely missing from the whole site, and only scattered finds and small potsherd clusters mark presence in the second half of the Árpád Age. The toponym ‘Ráda’ was formed from a personal name without suffixes, which is typical for the 10th–12th centuries. According to available data, the origin of the village goes back to the 12th century. Large fragments of stone, mortar, and human bones on the hilltop indicate the former medieval church; late medieval metal artefacts were also found there in considerable quantities.

<sup>95</sup> Site ID No. 99087.

<sup>96</sup> *MNL OL DL/DF 42972; Bártfai Szabó 1938 125; Bakács 1982 339.*

<sup>97</sup> Site ID No. 99029.

<sup>98</sup> Site ID No. 99083.

<sup>99</sup> *MNL OL DL/DF 942; Györffy 1998 517.*

<sup>100</sup> *MNL OL DL/DF 1563; MNL OL DL/DF 86950; Györffy 1998 554.*

<sup>101</sup> *Györffy 1998 554.*

<sup>102</sup> *Györffy 1998 554.*

<sup>103</sup> *MNL OL DL/DF 12611; Bártfai Szabó 1938 166–167; Bakács 1982 410.*

<sup>104</sup> *Bártfai Szabó 1938 299.*

<sup>105</sup> Site ID No. 41243.



Vány was mentioned first in 1277 as *villa*.<sup>106</sup> In 1359 and 1368, it was described as deserted, '*Ecclesiam desertam et terram vacuum ac habitatoribus destitutam Wayn vocatam*'.<sup>107</sup> We do not know whether it was deserted due to the Mongol Invasion; the suffix '-*egyháza*' [church of...], which would imply that, is not attached to its name. The village repopulated in the 1360s. In 1368, half of Vány became the property of Egyed, son of Tamás Bessenyei.<sup>108</sup> In 1468, it was mentioned together with part of Besnyő.<sup>109</sup> The surviving toponym supported its identification. Its church was situated on a small outcrop, and the remains of an Árpád Age settlement were detected around it. In its wider surroundings, an area of approximately 2 by 2 km, previous archaeological research had identified several small Árpád Age settlements. The fusion of these may have resulted in the emergence of Vány in the 13th century.

Bugyi appeared first in 1321 as *Budymatheusfolua*, acquired by Miklós, count of Temes, together with other properties;<sup>110</sup> later on, it appeared as *Bod*, *Bud*, *Bady*, *Budy*, and *Bwgh*.<sup>111</sup> For many years, it belonged to the district of Solt in Fejér County. In 1507, it became part of Pest County. Ráda and Vány may have been deserted in the early Ottoman Period, but, according to Ottoman *defters*, Bugyi was still inhabited in the 16th century. Rich late medieval material was collected from the area of the Telekpuszta II site<sup>112</sup> at the southern fringes of the present-day settlement in several field survey campaigns. Another group of medieval sites is located in Kenderföldek, immediately southwest of Bugyi. The settlement was thus divided into several parts by its owners. Ráda, Vány and Bugyi were villages of the lower nobility, but the sources also mention serfs.<sup>113</sup> The scatter of surface finds and the separation of the settlement areas also point to divided estates in the Late Middle Ages.

Late medieval documents mention some settlements which could not be identified yet as *terra* and *praedium*. Kakucs was located east of Inárcs and Besnyő. It was first mentioned in 1456 as a *praedium*,<sup>114</sup> but its location is unknown. It is uncertain whether Kuzna, Borzsva and Baracs (*terra Kuzna*, *terra Burzwa*, *terra Boroch*), mentioned in the 1264 charter as laying west of the perambulated property, have ever been inhabited. Based on their topographic setting, the Árpád Age sites Dabas 7/1<sup>115</sup> and 7/3<sup>116</sup> could be potential candidates to be identified with them. We do not have any information on Kindkörös either (*terra Kyndkeurus*). Blasius de *Hethen*, a judge in Pest County, appeared in 1322<sup>117</sup> in a document, suggesting that *Hetény* may have been a village then, although it was mentioned later, in 1409, as *terra*,<sup>118</sup> south of the church of Hernád (*Harnad*). The toponym did not survive on maps, and its location has not been identified. This may be because the present-day Hernád is south of the medieval Hernád and has perhaps destroyed the traces of medieval *Hetény*.

<sup>106</sup> MNL OL DL/DF 975; Györffy 1998 563.

<sup>107</sup> MNL OL DL/DF 69244; *Bártfai Szabó* 1938 75; *Bakács* 1982 218; MNL OL DL/DF 98069; *Bakács* 1982 236.

<sup>108</sup> *Bártfai Szabó* 1938 82.

<sup>109</sup> MNL OL DL/DF 16689; *Bártfai Szabó* 1938 253.

<sup>110</sup> MNL OL DL/DF 76293; *Bakács* 1982 125.

<sup>111</sup> *Czagányi* 2000 76–100.

<sup>112</sup> Site ID No. 59779.

<sup>113</sup> *Czagányi* 2000 100–108.

<sup>114</sup> *Bártfai Szabó* 1938 212.

<sup>115</sup> Site ID No. 34335.

<sup>116</sup> Site ID No. 34337.

<sup>117</sup> MNL OL DL/DF 86950; Györffy 1998 521.

<sup>118</sup> MNL OL DL/DF 42972; *Bártfai Szabó* 1938 125; *Bakács* 1982 339.

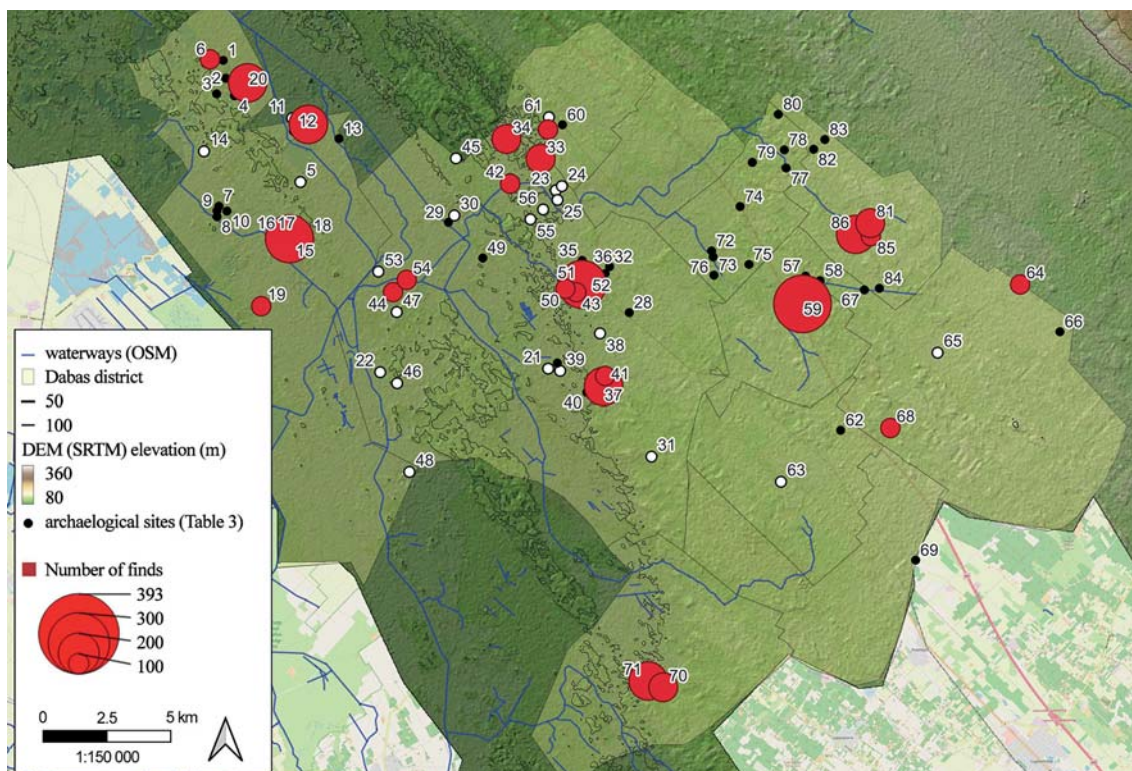


Fig. 13. Quantity of metal finds collected at different sites in Dabas district  
(©László Ferenczi, ©Tibor ÁkosRácZ)

### *Preliminary observations concerning the finds and their distribution*

In addition to historical and settlement geographical data, some conclusions could also be drawn from the find material. It is important to note that, similarly to historical sources, this evidence is also biased due to uneven sampling. At Dabas, Inárcs, and Bugyi, the field surveys were more systematic than at other settlements; additionally, there have been several preventive and research excavations in medieval Dabas. Therefore, the body of archaeological information obtained about the western part of the study area (Dabas district) is more comprehensive. Some sites, such as the Árpád Age villages of Tördemic or Bugyi, could be systematically investigated because of their geographic characteristics, while others (e.g., Vacs and Örkény) were inaccessible due to lying on built-up land.

By mapping the quantity of medieval metal finds (only from the field surveys, not from excavations), an archaeological picture of the medieval settlement pattern was outlined (*fig. 13*). It is important to stress that this reflects the late medieval state of inhabitation in the first place, as the number of metal finds dated to the Árpád Age is much less significant. Despite chronological and distribution biases, this picture can be used (with some reservations) as a quantitative indicator of settlement hierarchy. Hernád is probably not the most important village in terms of find number, but it has been, fortunately, unaffected by looting, and its area could be systematically investigated for years by museum-friendly metal detectorists.

Comparing the numbers of Árpád Age pottery sherds and metal finds, the intensity of occupation seems to be roughly even throughout the study area except for the Kiskunsági-homokhát, where it seems far less intensive.<sup>119</sup> Interestingly, this contrast did not disappear during the Late Middle

<sup>119</sup> The reason for this is not yet known. It may be related to the phenomenon of later sand movement, covering the traces of medieval sites. This is confirmed by archaeological evidence, see *Nyári – Rosta 2009*.

Ages. However, the Árpád Age settlements are not evenly distributed: site clusters with empty areas between them could be observed, for example, around Vány, Bugyi, and Dabas. These scattered Árpád Age settlements later fused into single villages. The most intensive settlement traces and the richest Árpád Age find material were obtained from Dabas, Besnyő, and Inárcs, settlements of a cluster on the fringes of the marshy landscape of the Nagyturján in the Csepel-sík. Besnyő was very intensive in the early Árpád Age; in addition to 10th-century clothing accessories, 11th-century coins and a gilded bronze strap-end with a lion depiction<sup>120</sup> testify to the flourishing of the settlement at the time of the foundation of the Hungarian state. The late medieval settlement is situated a few hundred metres away. It was much poorer, yielding only common finds. Both the finds and the written sources indicate that the village of Inárcs existed before the Mongol Invasion. The majority of the obtained finds date from the 13th–15th centuries, but the settlement was already significant from the Middle Árpád Age. A nobleman may have worn the gold-plated bronze mantle clasp with a dragon's head in the late 13th–early 14th century, which was found with a metal detector on the territory of the village.<sup>121</sup>

The importance of the village of Tördemic on the border between the Pilis–Alpári-homokhát and the Kiskunsági-homokhát is highlighted by special finds including a virtue bowl, a star-shaped mace with twelve spikes, and a large quantity of coins dated to the second and last third of the 12th century.<sup>122</sup> Based on surface finds (mainly pottery and coins), it was a short-lived settlement, which was likely established around the Middle Árpád Age and had been depopulated by its end or the beginning of the 14th century at the latest. The situation here is as fortunate as in Hernád: the site has been accessible for surface surveys and was not affected by construction or illegal treasure hunting.

If both excavation and field survey data are taken into account, the richest settlement and the centre of the region in the Árpád Age and the late Middle Ages was clearly Dabas. From the Árpád Age through the Late Middle Ages to the Ottoman Period, Dabas developed, grew, and prospered. Its importance is illustrated best by excavation results. The 11th–12th-century objects found in the cemetery (gold S-terminalled rings, objects associated with the Rus', and some coins of King (Saint) Stephen I, Peter Orseolo, and King Andrew I) are indicative of the beginnings of the settlement and the elite status of its inhabitants.<sup>123</sup> Pit-houses dated to the middle Árpád Age were found in the area west of the modern settlement.<sup>124</sup> The finds obtained by metal detector surveys include a Limoges saint figure and a gilded bronze ornament with openwork decoration, which may hint at the prominence of the site, suggesting that the village had wealthy residents and connections to distance trade. Systematic excavations have been carried out in the core area of the 13th–14th-century settlement, revealing two dozen residential buildings containing hundreds of household utensils, weapons, relics of religious devotion, and a coin hoard with gold florins.<sup>125</sup> The late medieval village of the local nobility (Dabasi family)<sup>126</sup> occupied several neighbouring mounds. Among the buildings was a timber-framed house with a basement, built around the end of the 15th century and destroyed by fire in the mid-16th century. It yielded the most important objects typical of late medieval noble households.<sup>127</sup> The central role of Dabas was due to its topographic location at a road junction, where a few other villages, such as Gyón and Sári, formed a sort of agglomeration in medieval times. Later, Sári was incorporated into Dabas, and its area

---

<sup>120</sup> *Füredi – Rác* 2021 140.

<sup>121</sup> *Füredi – Rác* 2021 142–143.

<sup>122</sup> *Herbst* 2021.

<sup>123</sup> *Rác – Németh* 2021.

<sup>124</sup> *Rác* 2013.

<sup>125</sup> *Rác* 2014.

<sup>126</sup> Cf. *Tringli* 2001 135.

<sup>127</sup> *Rác* 2021.

was built up; thus, the medieval site cannot be studied today. As for Gyón, it extended over a large area, like Dabas, and began to develop from the end of the Árpád Age. A small coin hoard from the years of the Mongol Invasion<sup>128</sup> was found there, while in the Late Middle Ages, the settlement had a church with an intensive settlement around it. Future excavations might reveal more information about its later history and fate.

On the Árpád Age site, preceding the late medieval village of Zádóg, surface finds indicated a possible Mongol Period hoard. The late medieval site is characterised by common finds scattered over a large area; its church, pinpointing its centre, has been identified.

The village of Vány prospered in the second half of the Árpád Age. According to available documents, it was a village in the late 13th century, which became depopulated in the 14th century, most likely due to transformative socio-economic processes triggering internal migration.<sup>129</sup> In the Late Middle Ages, its role was taken over by Ráda, as indicated by important finds there, including imported foreign artefacts, weapons, a seal stamp, and gilded bronze objects. The pottery finds show that the settlement was intensively used; besides, the site includes a church.

If one disregards the historical data and tries to draw conclusions about the villages based only on archaeological remains, the medieval settlement of Hernád could be considered the other regional centre besides Dabas. A huge collection of late medieval artefacts has been obtained from Hernád, including hundreds of special items, prestige objects, and gold finds. However, not this makes the assemblage so significant but the fact that it was possible to retrieve from there a series of artefacts, i.e., several specimens of certain artefact types, which provide an in-depth view of the material culture of the late medieval population. There is no sign of inhabitation in the Árpád Age, but an intensive late medieval settlement could be identified, which became depopulated during the Ottoman Period. The gilded openwork bronze artefacts, silver signet rings, cloth clasps with figural decoration, and other special ornaments reflect the material culture of the local nobility.

Apart from Dabas and Hernád, the villages of Ráda and Bugyi were also of great importance. In the social hierarchy of settlements, the villages of the local nobility were more prominent, and this seems to be well-reflected by their find material, which appears in similar intensity and reflect their similar importance. This record includes gold jewellery, candle holders, book covers, textile seals, ornate silver clothes clasps and, less frequently, weapon finds, indicators of the medieval noble household and way of life. With regard to this context, one has to note the general difficulty of connecting material evidence with social hierarchy. It is often problematic to attribute above-average quantity and/or quality of finds (e.g., imports, special finds, etc.) to higher social strata;<sup>130</sup> however, in the case of Dabas the archaeological and settlement-historical data convincingly corroborate the point.

As reflected by their find material, the villages of Csíkos, Örkény, Vátya, Cibakháza, Hartvány, Esső, and Mántelek were much poorer. However, one of the largest late medieval coin hoards in Pest County comes from the area of Vátya. Judging by the quantity of finds, the settlement of Csíkos was not particularly long-lasting. The most important find from the area of Örkény is a Mongol Period coin hoard, apart from which there are only very uncertain traces of the late medieval settlement. Cibakháza is characterised by a few typical late medieval finds scattered over a small area, the remains of probably a Middle Age farmstead.

---

<sup>128</sup> Nagy – Ráczi 2016.

<sup>129</sup> See Tringli 2001 103–104.

<sup>130</sup> Ferenczi – Sárosi – Zatykó 2023.



### *Conclusions*

In the analysis of historical topographical data related to the area of Pest County in the Middle Ages, as available in historical topographical gazetteers, the rural settlements could be classified into different categories based on quantitative and qualitative parameters (household number, ownership, and centrality functions). The distribution of the sites representing these categories reflects regional patterns: there is a notable difference between the plainland area and the Gödöllői-dombság. Besides, remarkably, the structural differences in the late medieval settlement networks of the different micro-regions seem to have prevailed into the 19th century, as reflected by cartographical data. By applying point pattern analysis techniques to archaeological topographical databases of medieval sites, it was possible to link historical settlement data and archaeological data and argue that a group of settlements recognised as ‘substandard’ according to 16th-century tax records may outline patterns of desertion (deserted Árpád Age sites). It is conspicuous that a concentration of these settlements is evidenced in the estate of the Premonstratensian monasteries of Ócsa and Csút, which can be explained, on the one hand, by the particular socio-economic context related to the estate management model of the monastic estate and on the other hand, to the process of settlement contraction which resulted in the formation of a (demographically and) economically stable agglomeration of settlements around Dabas (Gyón and Sári), a town situated at the intersection of major roads and also at the boundaries of micro-regions. The systematic analysis of small (metal) finds has also revealed hierarchical differences between late medieval settlements/sites. Overall, these observations shed light on the late medieval settlement hierarchy, influenced by different social, economic, and environmental factors. To some extent, the archaeological differences detailed above reflect clearly the categorical differences between ‘standard’ villages and substandard settlements.

### REFERENCES

- Bakács 1982* I. Bakács: Iratok Pest megye történetéhez. Oklevélregeszták, 1002–1437 [Sources on the History of Pest County. Charters’ Regestae, 1002–1437]. Pest megye múltjából 5. Budapest 1982.
- Bálint 1998* M. Bálint: Az Árpád-kori településhálózat rekonstrukciója a Duna–Tisza között [Reconstruction of the Árpád-Era Settlement Network in the Danube–Tisza Middle]. Tanulmányok Csongrád megye történetéből 26. Szeged 1998, 39–50.
- Bálint 2006* M. Bálint: Az Árpád-kori településhálózat rekonstrukciója a Dorozsma–Majsai homokhát területén (Reconstruction of the Settlement Network of the Árpád Period in the Dorozsma–Majsai Homokhát Area). PhD dissertation at the Eötvös Loránd University, Budapest. Budapest 2006. <https://doktori.btk.elte.hu/hist/balint/diss.pdf>
- Bártfai Szabó 1938* L. Bártfai Szabó: Pest megye történetének okleveles emlékei, 1002–1599 [Documentary Records of the History of Pest County, 1002–1599]. Budapest 1938.
- Blazovich 1985* L. Blazovich: A Körös–Tisza–Maros-köz középkori településrendje [The Medieval Settlement System of the Körös–Tisza–Maros Area]. Dél-Alföldi évszázadok 1. Békéscsaba – Szeged 1985.

- Bózsa 2021* A. Bózsa: Fémkeresős kutatásból származó különleges római tárgyak (Unique Roman finds from metal detector surveys), in: T. Á. Rác (ed.): Kincskeresés, kaland, tudomány. Közösségi régészeti projektek Pest megyében. Kiállítási katalógus. Szentendre 2021, 194–199.
- Csánki 1890* D. Csánki: Magyarország történelmi földrajza a Hunyadiak korában 1. [Historical Geography of Hungary in the Time of the Hunyady Rule]. Budapest 1890.
- Csippán – Ferenczi 2020* P. Csippán – L. Ferenczi: Fifty shades of grey? The impact of Hungarian cattle trade on cattle breeding in the Late Medieval and Early Modern Period. JAS. Reports 29 (2020) 102031.  
<https://doi.org/10.1016/j.jasrep.2019.102031>
- Czagányi 1990* L. Czagányi: Tatárszentgyörgy története [The History of Tatárszentgyörgy]. Budapest 1990.
- Czagányi 2000* L. Czagányi: Bugyi község története 1. [The History of the Municipality of Bugyi]. Bugyi 2000.
- Czagányi – Kulcsár 1995* L. Czagányi – G. Kulcsár: Inárcs története 1263–1993 1. [The History of Inárcs]. Inárcs 1995.
- Dávid 2013* G. Dávid: Towns, villages, depopulated settlements. Population movements in Ottoman Hungary. Hungarian Studies 27/2 (2013) 251–261.  
<https://doi.org/10.1556/HStud.27.2013.2.4>
- Decsy 1817* J. Decsy: Az Otsai Inartsi, Babadi, és Némedi tirjanyok rajzolatja, 1817 [The Delineation of the Marshlands in Inárcs, Badad and Némedi]. Pest Megyei Levéltár, PML IV. 165. D. (PMU) 295 jelzet.
- Elekes 1955* L. Elekes: A központosító politika belső erőforrásai a XV. század második felében [The Internal Resources of Centralising Politics in the Second Half of the 15th Century]. A történettudomány kérdései 18. Budapest 1955.
- Engel 2001* P. Engel: Magyarország a középkor végén. Digitális térkép és adatbázis a középkori Magyar Királyság településeiről [Hungary at the End of the Middle Ages. Digital Map and Database of the Settlements of the Medieval Kingdom of Hungary]. Budapest 2001.
- Ferenczi 2021* L. Ferenczi: Seasonality and logistics of the late medieval and early modern cattle trade in Hungary, in: P. Dixon – C. Theune (eds.): Seasonal Settlement in the Medieval and Early Modern Countryside. Leiden 2021, 243–252.
- Ferenczi – Sárosi – Zatykó 2023* L. Ferenczi – E. Sárosi – Cs. Zatykó: Peasant household – noble household. Objects and structures. Some remarks on the household archaeology of Late Medieval Hungary, in: C. Tente – C. Theune (eds.): Household Goods in the European Medieval and Early Modern Countryside. Leiden 2023, 179–188.
- Füredi – Rác 2021* Á. Füredi – T. Á. Rác: Az Ócsai Tájvédelmi Körzet régészeti topográfiája a honfoglalástól a középkor végéig (Archaeological topography of the Ócsa Landscape Protection Area from the Hungarian Conquest to the end of the Middle Ages), in: T. Á. Rác (ed.): Kincskeresés, kaland, tudomány. Közösségi régészeti projektek Pest megyében. Kiállítási katalógus. Szentendre 2021, 116–143.

- Győrffy 1921* I. Győrffy: Régi határjelzések és nevek [Old boundary markers and names]. *Föld és Ember* 1/2 (1921) 142.
- Győrffy 1961* Gy. Győrffy: A tatárjárás pusztításának nyomai helyneveinkben (Spuren der Verwüstung durch den Tatarenzug in ungarischen Ortsnamen), in: L. Győrffy (ed.): Emlékkönyv a Túrkevei Múzeum fennállásának 10. évfordulójára. *Túrkeve* 1961, 35–38.
- Győrffy 1998* Gy. Győrffy: Az Árpád-kori Magyarország történeti földrajza 4. [The Historical Geography of Árpád-Era Hungary]. Budapest 1998.
- Herbst 2021* A. Herbst: A pusztavacsi érénytál (Virtue bowl from Pusztavacs), in: T. Á. Rácz (ed.): Kincskeresés, kaland, tudomány. Közösségi régészeti projektek Pest megyében. Kiállítási katalógus. Szentendre 2021, 236–243.
- Irásné Melis 1983* K. Irásné Melis: Adatok a Pesti-síkság árpádkori településtörténetéhez [Data to the Árpád Period Settlement History of the Pest Plain]. Budapest 1983.
- Janata 2018* K. Janata: A Turjánvidék tájféldrajza (Landscape geography of the Turjánvidék), in: M. Korda (ed.): Természetvédelem és kutatás a Turjánvidék északi részén. Tanulmánygyűjtemény. *Rosalia* 10. Budapest 2018, 17–28.
- Juhász 1936* L. Juhász: A porta története 1526–1686. Jobbágygazdálkodásunk egysége és az adóegység [The History of the 'porta' 1526–1686. The Unit of Our Peasant Herd Farming and the Tax Unit]. *Tanulmányok a magyar mezőgazdaság történetéhez* 12. Budapest 1936.
- Kálnoki-Gyöngyössy 2015* M. Kálnoki-Gyöngyössy: Tezaurált leletegyüttes része a középkori Hernád településről [Part of a hidden finds assemblage from the medieval settlement of Hernád], in: B. Nagy (ed.): Kincseskamra. Kincsek és éremleletek Pest megyében. Válogatás a Ferenczy Múzeum Régészeti és Numizmatikai Gyűjteményéből. Kiállításvezető. Szentendre 2015, 27–28.
- Kiss 2019* A. Kiss: Floods and Long-Term Water-Level Changes in Medieval Hungary. New York 2019.  
<https://doi.org/10.1007/978-3-319-38864-9>
- Knípl 2013* I. Knípl: Hajós régészeti topográfiája (Archeological topographies of Hajós). *Cumania* 26 (2013) 7–46.
- Kovács 2022* Gy. Kovács (ed.): Középkori és török kori várak, erődítések Pest megyében [Medieval and Turkish Castles and Fortifications in Pest County]. Budapest 2022.
- Kristó 2003* Gy. Kristó: Fejezetek az Alföld középkori történetéből [Chapters from the Medieval History of the Great Plain]. Dél-alföldi évszázadok 20. Szeged 2003.
- Kustár et al. 2016* R. Kustár – D. Molnár – P. Sümegi – T. Törőcsik – Sz. Sávai: Preliminary paleoecological reconstruction of long-term relationship between human and environment in the northern part of Danube Plain, Hungary. *Open Geosciences* 8/1 (2016) 405–419.  
<https://doi.org/10.1515/geo-2016-0026>



- Laszlovszky 2008* J. Laszlovszky: Földművelés a késő középkori Magyarországon [Agriculture in Medieval Hungary in the Late Middle Ages], in: A. Kubinyi – J. Laszlovszky – P. Szabó (eds.): Gazdaság és gazdálkodás a középkori Magyarországon. Gazdaságtörténet, anyagi kultúra, régészet. Budapest 2008, 49–82.
- Laszlovszky 2010* J. Laszlovszky: Fama sanctitatis and the Emergence of St. Margaret's cult in the rural countryside. The canonization process and social mobility in thirteenth-century Hungary, in: O Gecser – J. Laszlovszky – B. Nagy – M. Sebők – K. Szende (eds.): Promoting the Saints. Cults and Their Contexts from Late Antiquity until the Early Modern Period. CEA Medievalia. Budapest 2010, 103–124.  
<https://doi.org/10.1515/9789633863923-011>
- Laszlovszky 2018* J. Laszlovszky: Agriculture in Medieval Hungary, in: J. Laszlovszky – B. Nagy – P. Szabó – A. Vadas (eds.): The Economy of Medieval Hungary. East Central and Eastern Europe in the Middle Ages, 450–1450 49. Leiden 2018, 79–112.  
[https://doi.org/10.1163/9789004363908\\_006](https://doi.org/10.1163/9789004363908_006)
- Lipszky 1808* J. Lipszky: Repertorium locorum objectorumque in XII. tabulis mappae regnorum Hungariae, Slavoniae, Croatiae, et confiniorum militarium magni item principatus Transylvaniae occurrentium. Pest 1808.
- Lóki – Schweitzer 2001* J. Lóki – F. Schweitzer: Fialat homokmozgások kormeghatározási kérdései a Duna–Tisza közti régészeti feltárások tükrében [The dating of young sand movements in the light of archaeological excavations near the Danube–Tisza]. Közlemények a Debreceni Egyetem Földrajzi Intézetéből 221 (2001) 175–181.
- Makkai 1966* L. Makkai (ed.): Jobbágytelek és parasztgazdaság az örökös jobbágyság kialakulásának korszakában [Peasant Landholding and Peasant Farming in the Era of the Emergence of Serfdom]. Budapest 1966.
- Maksay 1958* F. Maksay: Parasztság és majorgazdálkodás [Serfdom and Manorial Economy]. Értekezések a történeti tudományok köréből. Új sorozat 7. Budapest 1958.
- Maksay 1990* F. Maksay: Magyarország birtokviszonyai a 16. század közepén 1–2. [Land Tenure in Hungary in the Mid-16th Century]. Budapest 1990.
- Mészáros – Hausfatter 1974* L. Mészáros – K. Hausfatter: A hódoltsági mezővárosok népességszámának kérdéséhez (1546–1562) II. [On the question of the population of the field towns of the Conquest (1546–1562) II]. Demográfia 17/2 (1974) 213–235.
- Mezey 1963* L. Mezey: Csütmonostor alapítástörténete és első oklevelei (1264–1271) (Die Gründungsgeschichte und die ersten Urkunden des Stiftes Csütmonostor [1264–1271]). Tanulmányok Budapest Múltjából 15 (1963) 7–42.
- Mező 1996* A. Mező: A templomcím a magyar helységnevekben (11–15. század) [Church Dedications in Hungarian Placenames (11th–15th Century)]. Budapest 1996.
- MNL OL DL/DF* The National Archives of Hungary. Diplomatic Archive [Magyar Nemzeti Levéltár Országos Levéltára, Diplomatikai Levéltár]

- MRT 7* I. Dinnyés – K. Kővári – Zs. Lovag – S. Tettamanti – J. Topál – I. Torma: Pest megye régészeti topográfiája 13/1. A budai és szentendrei járás. [Archaeological Topography of Pest County 13/1. The Districts of Buda and Szentendre]. MRT 7. Budapest 1986.
- MRT 9* I. Dinnyés – K. Kővári – J. Kvassay – Zs. Miklós – S. Tettamanti – I. Torma: Pest megye régészeti topográfiája 13/2. A váci és a szobi járás [Archaeological Topography of Pest County 13/2. The Districts of Vác and Szob]. MRT 9. Budapest 1993.
- MRT 11* I. Dinnyés – K. Kővári – J. Kvassay – Zs. Miklós – S. Tettamanti – I. Torma: Pest megye régészeti topográfiája 13/3. Az aszódi és a gödöllői járás [Archaeological Topography of Pest County 13/3. The Districts of Aszód and Gödöllő]. MRT 11. Budapest 2012.
- Nagy – Rácz 2016* B. Nagy – T. Á. Rácz: Tatárjárás kori teaurált leletgyűttes töredéke Dabasról (Pest megye) [A fragment of a Tatar Age hidden artefact assemblage from Dabas {Pest County}]. Érem 72/1 (2016) 1–6.
- Neumann 2003* T. Neumann: Telekpusztásodás a késő középkori Magyarországon [Land destruction in Late Medieval Hungary]. Századok 137/4 (2003) 849–884.
- Novák 2015* L. F. Novák: A három város néprajza [The Ethnography of the Three Towns]. Studia folkloristica et ethnographica 60. Debrecen 2015.
- Nyári – Kiss 2005* D. Nyári – T. Kiss: Holocén futóhomok-mozgások Bács-Kiskun megyében régészeti leletek tükrében (Holozäne Flugsandbewegungen im Spiegel der archäologischen Funde im Komitat Bács-Kiskun). Cumania 21 (2005) 83–93.
- Nyári – Rosta 2009* D. Nyári – Sz. Rosta: Középkori szántás a homok alatt Kiskunhalas határában [Medieval ploughing under sand on the outskirts of Kiskunhalas]. Halasi Múzeum 3 (2009) 27–34.
- Nyári et al. 2014* D. Nyári – I. Knipl – T. Kiss – Gy. Sipos: Egy homokbucka története. Az ember környezet-átalakító tevékenységének nyomai a Duna–Tisza köze területén, Soltvadkert–Alsócsábor [The story of a sand bank. Traces of man’s environmental transformations in the Danube–Tisza area, Soltvadkert–Alsócsábor], in: I. Csiszár – P. M. Kőmíves (eds.): Tavaszi Szél 2014. Konferenciakötet. Debrecen 2014, 233–244.
- Pánya 2022* I. Pánya: A hódoltság területének középkori és kora újkorai településtopográfiájának kutatási módszertana Bács, Bodrog és Solt vármegyék példáján (Research Methodology for the Medieval and Early Modern Settlement Topography of the Conquered Territories, Using the Example of the Counties of Bács, Bodrog and Solt). PhD dissertation at the University of Szeged. Szeged 2022. <https://doktori.bibl.u-szeged.hu/id/eprint/11337/>
- Pánya – Rosta 2015* I. Pánya – Sz. Rosta: A Dunapataj és Solt közötti terület késő középkori településhálózatának változása [Changes in the Late Medieval settlement network in the area between Dunapataj and Solt], in: Cs. Balogh – Zs. Petkes – B. Sudár – Zs. Zsidai (eds.): ...in nostra lingua Hringe nominant. Tanulmányok Szentpéteri József 60. születésnapja tiszteletére. Budapest – Kecskemét 2015, 243–268.

- Pinke et al. 2016* Zs. Pinke – L. Ferenczi – Gy. Gábris – B. Nagy: Settlement patterns as indicators of water level rising. Case study on the wetlands of the Great Hungarian Plain. *Quaternary International* 415 (2016) 204–215.  
<https://doi.org/10.1016/j.quaint.2015.11.032>
- Pinke et al. 2017* Zs. Pinke – L. Ferenczi – B. F. Romhányi – F. Gyulai – J. Laszlovszky – Z. Mravcsik – P. Pósa – Gy. Gábris: Zonal assessment of environmental driven settlement abandonment in the Medieval Trans-Tisza region, Central Europe. *Quaternary Science Reviews* 157 (2017) 98–113.  
<https://doi.org/10.1016/j.quascirev.2016.12.010>
- RÁCZ 2013* T. Á. RÁCZ: Social differences within rural settlement types in the central area of the Hungarian Kingdom between the 10th and the 14th centuries in: I. Klápště (ed.): *Hierarchies in Rural Settlements*. *Ruralia* 9. Turnhout 2013, 423–435.  
<https://doi.org/10.1484/M.RURALIA.1.101626>
- RÁCZ 2014* T. Á. RÁCZ: Dabas középkori temploma és temetője (The Medieval church and churchyard of Dabas), in: A. Rajna (ed.): *Múltunk a föld alatt. Újabb régészeti kutatások Pest megyében*. Szentendre 2014, 107–117, 176–177, 234–257.
- RÁCZ 2019a* T. Á. RÁCZ: A Pesti-síkság falvai a magyar honfoglalástól a 14. századig. Kerámiaművesség, lakóépítmények, települési formák (Villages of the Pest Plain from the Hungarian Conquest Until the Fourteenth Century. Pottery, Residential Buildings, Settlement Forms). *Studia ad archaeologiam Pazmaniensia* 13. Budapest 2019.
- RÁCZ 2019b* T. Á. RÁCZ: Közösségi régészet. Egy új kutatási eljárás születése [Community archaeology. The birth of a new research method]. *Múzeumcafé* 72 (2019) 149–157.
- RÁCZ 2021* T. Á. RÁCZ: Késő középkori alapincézett épület feltárása Dabason (Excavation of a Late Medieval building with cellar on Dabas), in: T. Á. RÁCZ (ed.): *Kincskeresés, kaland, tudomány. Közösségi régészeti projektek Pest megyében*. Kiállítási katalógus. Szentendre 2021, 106–113.
- RÁCZ – NÉMETH 2021* T. Á. RÁCZ – V. NÉMETH: Tervátás civil segítséggel Dabas középkori temetőjében (Research excavation with civilian help in the medieval cemetery of Dabas), in: T. Á. RÁCZ (ed.): *Kincskeresés, kaland, tudomány. Közösségi régészeti projektek Pest megyében*. Kiállítási katalógus. Szentendre 2021, 144–159.
- F. Romhányi – Laszlovszky 2021* B. F. Romhányi – J. Laszlovszky: A tatárjárás pusztítása és a magyarországi templomhálózat [The effects of the Mongol Invasion and the church network]. *Századok* 155/3 (2021) 601–630.
- Rosta 2014* Sz. Rosta: A kiskunsági Homokhátság 13–16. századi településtörténete [Settlement History of the Sandhavian Region of Kiskunság in the 13th–16th Centuries]. PhD dissertation at the Eötvös Loránd University, Budapest. Budapest 2014.  
<https://doktori.btk.elte.hu/hist/rosta szaboles/diss.pdf>



- Sára 2018* J. Sára: Adatok az Ócsa–Dabasi Turjánvidék tájtörténetének ismeretéhez (Additions to the landscape history of the Ócsa–Dabas Turjánvidék), in: M. Korda (ed.): Természetvédelem és kutatás a Turjánvidék északi részén. Tanulmánygyűjtemény. Rosalia 10. Budapest 2018, 29–42.
- Sárosi 2016* E. Sárosi: Deserting Villages – Emerging Market Towns. Settlement Dynamics and Land Management in the Great Hungarian Plain, 1300–1700. Archaeolingua. Series minor 39. Budapest 2016.
- Stibrányi 2008* M. Stibrányi: A Sárvíz középkori településhálózatának vázlata, avagy a templom és a hozzá vezető út [Sketches of the Medieval settlement network of Sárvíz, or the church and the road leading to it]. Alba Regia 37 (2008) 189–196.
- Szabó 1938* I. Szabó: Hanyatló jobbágyság a középkor végén [Declining serfdom at the end of the Middle Ages]. Századok 72 (1938) 10–59.
- Szabó 1966* I. Szabó: A falurendszer kialakulása Magyarországon. X–XV. század [The Development of the Village System in Hungary in the 10th–15th Centuries]. Budapest 1966.
- Törőcsik – Sümegi 2019* T. Törőcsik – P. Sümegi: Pollen-based reconstruction of the plant cultivation in the Carpathian Basin from the Migration Age to the end of the Medieval Age. Archeometriai Műhely 16 (2019/1) 245–270.
- V. Székely 1984* Gy. V. Székely: 13. századi kincslelet Ladánybene-Hornnyák-dombról (Ein Schatzfund aus dem 13. Jahrhundert aus Ladánybene-Hornnyák-domb). Cumania 8 (1984) 209–272.
- Szilágyi 2014* M. Szilágyi: On the Road. The History and Archaeology of Medieval Communication Networks in East-Central Europe. Budapest 2014.
- Tari 2000* E. Tari: Pest megye középkori templomai [Medieval Churches of Pest County]. Studia Comitatus 27. Szentendre 2000.
- Tari 2008* E. Tari: Szent György-templom Inárcson [The Saint George Church in Inárcs], in: K. Ottományi – M. Gyöngyössy (eds.): Képek a múltból. Az elmúlt évek ásatásai Pest megyében. Szentendre 2008, 105.
- Tóth 2007* Cs. Tóth: A tatárjárás korának pénzekkel keltezett kincsleletei [Treasures of the Tatar era dated with coins], in: Á. Ritoók – É. Garam (eds.): A tatárjárás (1241–42). Kiállítási katalógus. Budapest 2007, 79–90.
- Tringli 2001* I. Tringli: Pest megye a késő középkorban [Pest County in the Late Middle Ages], in: A. Zsoldos (ed.): Pest megye monográfiája 1/2. A honfoglalástól 1686-ig. Budapest 2001, 75–194.
- Vékony 2001* G. Vékony: Népesedési viszonyok az Árpád-korban (Demographic conditions in the Age of the Árpáds [9–13th centuries]). Történeti Demográfiai Évkönyv (2001) 81–103.
- Wolf 2018* M. Wolf: Régészeti adatok a tatárjárás történetéhez (Archaeological data to the history of the Mongol Invasion of Hungary). ArchÉrt 143/1 (2018) 117–150.  
<https://doi.org/10.1556/0208.2018.143.7>

