The Geobotany of Medieval Hungary: a Preliminary Report

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Introduction

Old Hungarian plant identification is usually traced back to the Herbarium of Peter Melius Juhász (1578, Kolozsvár; today Cluj-Napoca, Romania) and to the Stirpium nomenclator pannonicus of Carolus Clusius (1583, Németújvár; today Güssing, Austria). Earlier, easily identifiable data can be gleaned from the Hungarian marginal notes of the illustrated Casanate Corvina (1470-1500) and some early herbals, such as the Ortus sanitatis (~1525), the Herbolarium (1500-1540), or the exemplars with commentaries of L. Fuchsius (sixteenth century) and Dorstenius (sixteenth-seventeenth centuries).1 Earlier, but more uncertain data, identified only by name, can be found in the abundant plant-name material of the first dictionaries (Dictionary of Beszterce, around 1395; Dictionary of Schlägl, around 1405; Dictionary of Sopron, around 1435; etc.) and in the early Hungarian glosses.2

The plant-name vocabulary of our medieval charters is much earlier and richer. Szamota analysed the early Hungarian plant names berkenye (service), füzegy (willow), köris (ash), körtvély (pear), mogyoró (hazel), nyír (birch), som (cornel) and szil (elm) from the foundation charter of the Tihany Abbey (1055).3 The data of the Oklevélszótár (Charter dictionary) have no annotations on their origins (place);4 the data published in the different charter collections (e. g., B.

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3 István Szamota, “A tihanyi apátság 1055-iki alapítólevele” (The foundation charter of Tihany Abbey from 1055), Nyelvtudományi Közlemények, 25 (1895), 129.
Precursors and previous works

Most of the previous works made mistakes by projecting the actual geobotanical landscape back for a thousand years, or by drawing conclusions from the climatic data of today. Even the work of Prinz and Teleki refers several times to the fact that the woodland limit was gradually driven back towards the mountain regions of the Carpathian Basin in historic times, and that clear-cutting in the vicinity of towns and castles caused considerable devastation to woods. Sándor Somogyi outlined his opinion first in the third volume of the work of Hajdú – Kristó – Róna-Tas, then in the third chapter of the first volume of the History of Hungary (The natural landscape of the Carpathian Basin at the time of the Hungarian Conquest). He reconstructed a hydrological map based on the 1938 work of Lászlóffy concerning the situation before river regulation. By means of a complex analysis of climatic-zonal

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7 The same mistake was committed by many of the linguistic-protohistorical works as well. See Péter Veres, “Tanulmányúton az őshaza nyomában a Szovjetunió földjén” (Field-trip in the Soviet-Union, investigating the Hungarian country of origin), Történelem és kultúra, 5 (1990), 86-89. An exception is Gyula László, Östörténetünk legkorábbi szakaszai (A finnugor östörténet régészeti emlékei a Szovjetföldön) [The earliest periods of our prehistory (Archaeological remains of Finno-Ugric prehistory in the Soviet Union)] (Budapest: Akadémiai Kiadó, 1971).

8 Gyula Prinz and Pál Teleki, Magyar földrajz (A magyar munka földrajza) [Hungarian geography (Geography of Hungarian labour)] (Budapest: n. p., 1938), 70-243, see the map on page 72.


conditions and of the pedological situation (like Prinz and Teleki), he prepared pedological and geobotanical maps. In this case, however, it is questionable whether the climatic circumstances of the Carpathian Basin were (approximately) the same as they are at present, and were before, after, and during the time of the Hungarian conquest. Györffy and Zólyomi demonstrate significant climatic changes just in this period, reconstructing a warmer climate for the eighth through the twelfth centuries and a cooler period with more abundant precipitation from the twelfth century onwards.\(^{11}\) The authors try to use these changes to solve some problems that were unsolved up to now (e.g. the "decline" of the Avars). Their ingenious argumentation is rather anachronistic, and they make analogies with remote places. The climatic circumstances they use, such as the freezing of Icelandic fiords and the quantity of the \(^{18}\)O isotope in the layers of ice in Greenland, are influenced by the Gulf current, which has little effect on the Carpathian Basin. They do not explain the basis of their geobotanical map. The existence and the extent of climatic changes in those times, shown by the latest investigations of Lajos Rácž,\(^ {12}\) warn us not to leave these factors out of consideration.

In the introductory chapters written for each county, published in the volumes of Hungary's historical geography in the Arpadian Age, Györffy often refers to economic and geobotanical connections. He did not exploit all the possibilities of his rich data base, however.

In our work,\(^ {13}\) we have analysed the written evidence for the different counties from the four published volumes of Györffy's monumental series.\(^ {14}\) This data base was supplemented with information from other sources (e.g. Ila, Bakács) as well as with archaeobotanical data. At first, we tried to choose a region of varied relief where plains, hills, mountains, and river valleys meet, which presumably included the boundary of the range of some plant species. Our first results were described in a previous report.\(^ {15}\) Up to now, we have finished the analysis of data concerning approximately half of medieval Hungary (map 1).

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\(^{11}\) György Györffy and Bálint Zólyomi, "A Kárpát-medence és Etelköz képe egy évezred előtt" (The Dnester-Danube region and the Carpathian Basin one thousand years ago), in Honfoglalás és régészet, ed. Kovács László (Budapest: Balassi, 1994), 17.

\(^{12}\) Lajos Rácž, "Éghajlatingadozások a Kárpát-medencében 1490-1799 között" (Oscillations of climate in the Carpathian Basin between 1490-1799), AEDES ACTA IUWEEN. 1986, 125-134; idem, "A középkor és kora újkor éghajlattörténetéről" (Climatological history of the Middle Ages and the Early Modern Period), Agrártörténeti Közlemények, 31 (1989), 118-147.

\(^{13}\) The research has been supported by the OTKA (National Fund for Scientific Research (project OTKA F029481).

\(^{14}\) Györffy, Az Árpád-kori Magyarország történeti földrajza.

\(^{15}\) András Grynaeus and Tamás Grynaeus, "Kisérlet a középkori Kárpát-medencei növényföldrajz rekonstruálására" (An attempt to reconstruct the medieval geobotany of the Carpathian Basin), Botanikai Közlemények, 86/87 (2000), 67-76.
Methodology

We used only data whose localisation and age were identifiable beyond doubt. The non-locatable data of the Charter dictionary, those of the Hungarian Historical-Etymological Dictionary, and of the glosses are excellent when describing the plant knowledge in a given period, but they cannot be used for answering geobotanical questions.

We collected data for the whole period of the medieval Hungarian kingdom (founded in 1001), and usually do not exceed the year of the battle of Mohács (1526), which traditionally signifies the beginning of the Ottoman conquest.

The data types of charters used and the limits of analysis are the following:

1) Toponyms formed of plant names. These can be localised in space and in time, their presence in the written sources can be followed through the centuries, but the exact meaning of the name there and then is not known.

2) Latin and Hungarian plant names occurring in perambulations. Among them, there is a surprisingly great number of small, herbaceous plants. These data, too, can be well located in space and time, but the exact, botanically definable meaning of the word remains unknown here as well. Nevertheless, the simultaneous appearance of the Latin and the Old Hungarian name ("...quae vulgo ... dicitur") allows some restricted identification.

3) The localisation in space of personal names originating from plant names is more difficult because of mobility. In some cases even the exact genesis of the toponym remains doubtful, whether the process occurred was plant name > family name > place name; or plant name > place name > family name. The exact meaning of the contemporary word is unknown here as well.

Plant remains found in archaeological excavations can be well localised in space (although an important condition, namely that the plant be native of the closest area of the site, is not always fulfilled). These remains may be dated with some restrictions and their botanical identification is possible, too. However, we do not know what they were called by their contemporary users. Therefore, these two types of data — archеobotanical remains and plant names — complement each other.

Benefits and difficulties of the periodisation of the material

We have divided the given period into centuries in order to distinguish the constant and the changing elements and also in order to make more precise conclusions. Although a great part of our material would allow more exact
dating – as one can see in list 1 –, and periodisation according to centuries is somewhat formal since it does not at all correspond to historical, economic, or social events, we prefer to retain this type of periodisation. The reasons for our decision are the following:

1) This fits the conventions of history best.

2) The age of some data cannot be defined more precisely, therefore we would have to omit them.

3) The toponyms may refer to a much earlier time or situation. "The difficulty lies in the fact that a toponym does not appear at the moment of its birth, but in some cases only decades or centuries later, usually when a legal act or a change in the legal situation worth recording happened in the geographical area of the place name. ... Between 866 and 1002, i. e. for more than a whole century we do not know any place name in the Carpathian Basin, ... and our knowledge concerning the eleventh and twelfth centuries is also very limited because of the well-known lack of written sources."\(^{16}\) Here, we have to mention that Makkay, following the opinion of Melich,\(^{17}\) considers the place names Körös, Gyertyámos, Kökényér – among others – loan-words from the time before 895, i. e. from the Late Avar Period. As we did not want to deal with the much-debated questions of the Hungarian conquest period, we used the term "Middle Ages in Hungary" in a broader sense. We have included archaeological data from the 9th century as well as written evidence from the sixteenth, or even from the seventeenth century, for instance in the case of rare plants. However, the overwhelming majority of our material remains in the period described above, i. e. between 1001 and 1526.

This uncertainty in the age does not concern the plants appearing in the perambulations, although an older landmark-tree can remain at its place for 50, 100 or 150 years.

**Methods**

A data base was developed\(^{18}\) (list 1), following the order of the counties according to Györfy. From this database one can sort the entries by county or a larger region, by century or by plant species. One can also sort the them by origin, i. e. place name, linguistic aspects (e. g., from perambulation), archaeological find identified to species, or persons' names. We included data originat-


18 With the help of Windows-Excel.
ing from the same place in different centuries. However, we have to stress that
the appearance of a data item in a given time does not mean that the plant in
question was not a native of the region before and after. The inverse is also true:
the absence of data concerning a plant in a given period does not mean that it
was not native there, because the written records as well as the archaeological
excavations are rather accidental. In other words: the data must not be
evaluated as regressive and progressive, positive or negative evidence.

On the basis of the data series different maps were drawn.19 As examples,
we give the data on three species (grape, oak, and beech) from the eleventh to
the sixteenth centuries, originating from the counties analysed up to the present,
and we summarise the questions raised by these data.

Conclusions and questions

At present, the database consists of 3680 items that represent 188 dif-
f erent plant names. This quantity of data is statistically large enough to allow
some modest conclusions concerning the medieval geobotany of the region
investigated:

Grape: In her article of 1980, Melinda Êgetõ outlined the vineyard
regions by means of 56 toponyms from the whole of medieval Hungary.20 Our
preliminary 405 items (map 2-6) presented here allow us much more reliable
conclusions. It is important to stress that our further work will process the data
of several counties (e.g. Veszprém, Zala) where viticulture played an important
role in agriculture.

Even on the basis of our present data, we can argue that grapes do not
demonstrate the thesis of Prinz and Teleki, repeated consistently ever since, of
the "gradual spreading towards the north" of viticulture. Contrary to this, even
the few eleventh century data draw the same northern border as later records. It
is just the increasing of the area of cultivation that can be observed. Some
regions, such as the valley of the Hernád, were planted with grapes from the
thirteenth century onwards.

We hope that our complete data base concerning vineyard areas will
allow us to decide, whether M. Belényesi21 or M. Êgetõ is right in this debate.
The latter author states that in the Arpadian Period viticulture was restricted to
the vicinity of rivers, while hills and lower slopes of mountains were brought
into cultivation only later.

19 With the help of AUTOCAD and a program developed at the Archaeological Institute of the
Eötvös Loránd University, Budapest. We are greatly indebted to Balázs Holl for his indis-
penable help.
20 Melinda Êgetõ, "Középkori szőlőművelésünk kérdéséhez" (On the question of medieval
wine culture in Hungary), Ethnographia, 91 (1980), 53-78.
21 Márta Belényesi, "Szőlő és gyümölcsnergésztésünk a XIV. században" (Vine- and fruit-
**Oak:** The data on oak (477 items) show that the range of this genus covered the whole Carpathian Basin (map 7). The possibility of identification of different oak species may offer new points of view for the long debate on the interpretation of oak data (see the works of Camillo Reuter\(^2\)):

- *Ilex* appears often (but not always) near rivers, i.e. on wetlands.
- The range of *'haraszt'* (another oak species) is not identical with the area of the other oak names, it appears even in places where other oak species do not occur.

**Beech:** Somogyi, Győrffy, and Zólyomi place the lower border of beech much farther to the north than our data and the geobotanical map of Zólyomi (1936)\(^2\) show. Moreover, according to the plant name data (81 items – map 8) we find – surprisingly enough – small beech spots in Borsod county, near the Tisza River (Nemesbikk, in the region of Palkonya), and at several places on the Great Hungarian Plain. If the plant called "bükk" (beech) in the sources is identical with *Fagus sylvatica*, the actual range of this tree (near the Mátra Mountains) differs considerably from what we have found for the Middle Ages. This astonishing difference awaits explanation. In the higher mountain areas, the range of beech according to our data and its recent appearance approximate each other.

We hope that once our work is completed it will be a useful tool for historians to reconstruct and understand the periods of Hungary’s earlier history.


Map 1: The analysed counties of Hungary
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* Geographical coordinates of localities of present Hungary are given in EOTR codes (uniform national space-informatical system).
Other coordinates are given in degrees.

** hn = toponyms  szn= personal names

List 1: Example of the entries into the data base
Map 2: Vineyards, all data (eleventh-fifteenth centuries) from the analysed counties
Map 6: Vineyards, fourteenth century