ISO/IEC JTC1/SC2/WG2 N4006

2011-05-19

Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type: Working Group Document
Title: Revised proposal for encoding the Carpathian Basin Rovas script in the SMP of the UCS
Source: Dr. Gábor Hosszú (Hungarian National Body)
Status: National Body Contribution
Action: For consideration by UTC and ISO/IEC JTC1/SC2/WG2
Date: 2011-05-19

This proposal replaces N4006 (2011-01-21). It contains the proposal summary form. Please send any response to this proposal to Gábor Hosszú (email: ~~hosszu@eet.bme.hu~~).

Contents

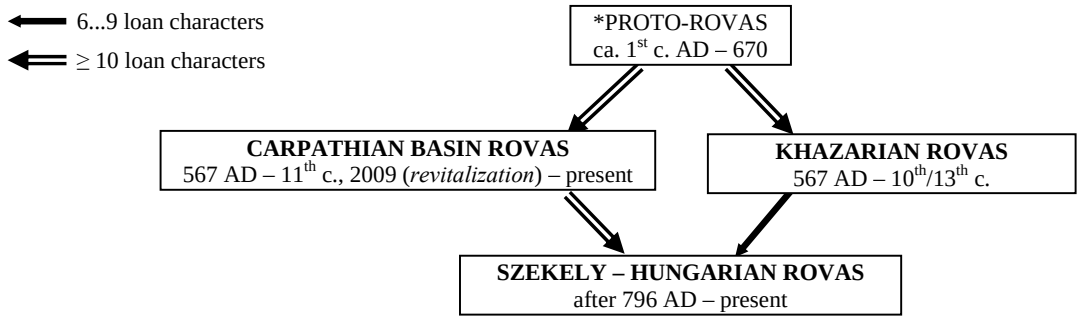
1. Summary

The *Carpathian Basin Rovas* /kaːˈpɛɪθjən ˈbɛɪsn rovaːʃ/ (CBR) script is an extinct writing system, which was revitalized in 2009. Based on the archaeological findings the use of CBR is proved in the 7th - 11th c. The clear majority of the historical texts on the relics are in Hungarian; however, there are some inscriptions also in Onogur, As-Alan, Slavic, and Eurasian Avar.[1]

CBR belongs to the family of the Rovas scripts[2], close relative to the *Khazarian Rovas* (KR),[3] and the ancestor of the *Szekely-Hungarian Rovas* (SHR).[4] The Rovas scripts differ from the Runic (its subgroups: early German,

[1] Vékony, 2002
[2] Hosszú, 2011b & 2011c
[3] Vékony, 1986; Hosszú, 2011c
[4] Hosszú, 2011b; Sándor, 1992, p. 7-8

Scandinavian, etc.) and the Old Turkic scripts (its subgroups: Baykal-Lena area, Yenisei valley, etc.).[5] CBR is one of the ancestors of the *Glagolitic* script.[6] The simplified genealogy of the Rovas scripts is presented below. The *Proto-Rovas script is a hypothetical common ancestor used North of the Caucasus and the Black See by the As-Alans from the first century AD,[7] it is finally derived from the Aramaic script.



There is a large and increasing user community of the Szekely-Hungarian Rovas script. As the old CBR inscriptions are gaining publicity among the SHR users, real need for the revitalization of CBR has arisen. However, for lack of the encoded standard of the revitalized CBR, different versions of CBR orthography came into existence that may cause difficulties. Consequently, the sooner the encoding process of the revitalized CBR is completed the easier is to manage it.

The direction of CBR is right-to-left. There is no casing in the known relics. However, due to the revitalization and the need for wide range daily use (digital communication, education and publication - including modern books and texts, etc) casing is necessary.

2. Some examples of the Carpathian Basin Rovas script

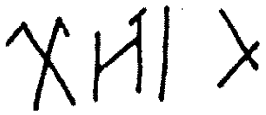


Figure 2-1: Inscription from the silver vessel of Ozora-Tótipuszta, last third of 7th c. AD.[8]

The transcription of 𐳀𐳋𐳁 𐳀 is /10 sïɣᵃt/, its translation from Ogur is '*10 [pieces] can go in*'.

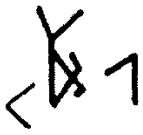


Figure 2-2: Inscription of the drinking cup of Kiskőrös-Vágóhíd, last third of 7th c. AD.[9]

The numeral is earlier than the textual inscription. Its transcription is 𐳅, its meaning was "5". According to archaeologist Vékony, it is earlier than the textual inscription; probably it denoted the weight or the value of the cup.[10] The transcription of the 𐳆𐳃 inscription is probably /pᵘt̲'ə/ 'louse' or /bᵘt̲a/ '[camel] foal' in Ogur. In the second case, it is supposed that the script kept an earlier form of the word /bᵘt̲a/ before voicing the first consonant.[11] This

[5] Sebestyén, 1909, p. 288; Róna-Tas, 1995, p. 273; Róna-Tas, 1996, p. 581
[6] Vékony, 1986; Vékony, 2004, p. 235
[7] Hosszú, 2011a
[8] Vékony, 2004; Erdélyi & Ráduly, 2010
[9] Vékony, 2004
[10] Vékony, 2004, p. 203
[11] Vékony, 2004

interpretation is based on the fact, that in the Proto-Turkic language there were unvoiced plosives (/p-/, /t-/, and /k-/) at the beginning of the words, and they later changed to voiced plosives: /p-/>/b-/, /t-/>/d-/, and /k-/>/g-/.[12]

The inscription on *Fig. 2-3* was found on the remains of a bow from the end of the 7th century in Környe (Hungary).[13] Its meaning is an archaic Hungarian magical text for ensuring the successful operation of the bow.[14] The transcription was improved by linguist E. Zelliger.[15]

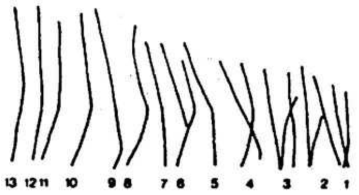


Figure 2-3: The Rovas inscription from Környe.[16]

Written in Carpathian Basin Rovas Font	[illegible]
IPA phonetic transcription	t^{i}ɣ ^{ɯ}ɣ^{a}t l^{e}β^{e}ld ɲ^{ɯ}l^{a}l ^{ɛ}l^{ɛ}n
Translation from Hungarian	'Shoot arrow with [this] bow against [him]!'

The needle case from the end of the 7th c. was discovered by I. Erdélyi in 1958, *Fig. 2-4* presents its two sides.[17]

Figure 2-4: Two sides of the Rovas inscription of the needle case from Jánoshida from the last third of the 7th c.[18]

Written in Carpathian Basin Rovas Font	[illegible]
IPA phonetic transcription	iŋɛ / b^{a}s ^{y}ŋyr^{i}g
Translation from Ogur	Needle, / defeat Üngür!

A bone needle case near Szarvas (Hungary) has a magical inscription from the second half of the 8th century. This belongs to the Late Avar Period (700-791).[19] *Fig. 2-1* presents the drawing of the inscription made by I. Erdélyi historian-archaeologist in 1984. The edges of the bone needle case are worn; therefore the top and bottom edges of a part of the characters are not clearly visible.[20] The transcription of archaeologist G. Vékony[21] was improved by linguist E. Zelliger.[22] The last character of the fourth row of the Rovas inscription was reconstructed by archaeologist Vékony.[23]

12 Vásáry, 2010-2011
13 Erdélyi, 1969; Erdélyi, 1982, p. 183
14 Vékony, 2004
15 Zelliger, 2010-11
16 Vékony, 1987a, p.89
17 Erdélyi, 1958a, p. 39, Table XLIV/2; Erdélyi, 1958b, pp. 55-56; Erdélyi, 1961, pp. 279-280
18 Vékony, 1987a, p. 74, 76
19 Róna-Tas, 1996, p. 108
20 Vékony, 1987b, *Figure 2*
21 Vékony, 1987a
22 Zelliger, 2010-11
23 Vékony, 1987a

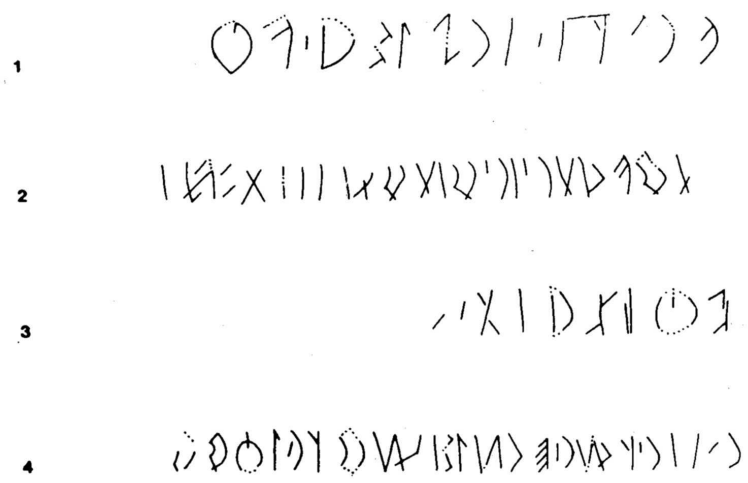


Figure 2-5: The bone needle case Rovas inscription of Szarvas.[24]

Written in Carpathian Basin Rovas Font	
IPA phonetic transcription	yngʸr : ⁱsnᵋk im ⁱʌ : βᵃʃᵘ [t]ⁱɣ tᵉβᵋdɣᵉn : ⁱsᵉn : tⁱɣ tⁱɣ sᵘrᵚ bᵉkᵚ βᵒrɣ fᵋʃᵋs : ᵋlᵉi s³l […] ʸngʸr nᵉ : adɣᵒn : [³zdɣ] imᵉsd ᵉɣt ɛn : iʃtᵋnᵋ[m]
Translation from Hungarian	‘Here is an iron [needle] against demon Üngür; Needle should be pricked into the demon; needle, needle, stab, poke, sew-[in]! [Who] unstitches […]; Üngür shall not give [curse]; […], blast him, my God!’

Treasure of Nagyszentmiklós is a collection of 23 gold plates found in Nagyszentmiklós, Hungary (currently Sânnicolau Mare, Romania) in the year 1799.[25] One of them is presented in *Fig. 2-6/a*. Before the final inscription a clearly visible draft was scored on the surface.[26] There are two drafts and two final inscriptions on the bowl in *Fig. 2-6/b*. Its transcription was modified by linguist E. Zelliger.[27]

Figure 2-6/a: The photo of the bowl No. 8 from the 9th-10th c.[28]

[24] Libisch, 2004
[25] Németh, 1932a; Németh, 1932b
[26] Bóna, 1984; Bálint, 2002; Bálint, 2004
[27] Zelliger, 2010-11
[28] Libisch, 2004

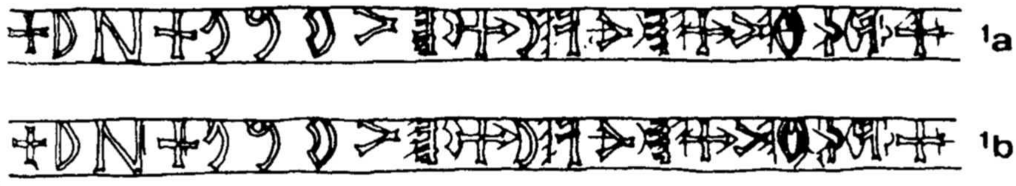
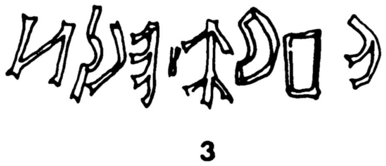


Figure 2-6/b: The inscription of the bowl No. 8 from the 9th-10th c.[29]

Written in Carpathian Basin Rovas Font	[illegible]
IPA phonetic transcription[30]	βoʃᵃd ᵚzᵞdβᵃɲ ᵚzᵃdᵃtni ᵉɣᵉi̯
Translation from Hungarian	'Woshad decoction for him for heating up.'

The beverage *woshad* is known even nowadays mainly among the Turkic people as *boza*.[31] The original Turkic name of this drink was surely /boʃa/ (it was found in Khazarian Rovas inscription, see Novocherkassk relic[32]) and /-d/ was the regular diminutive suffix existing in the Ancient Hungarian linguistic age. In the Hungarian language /β/ changed to /v/ or /b/ in the 12th-13th centuries.[33] The inscription was made much earlier; therefore, the right pronunciation of the first consonant is /β/.

The punctuation symbol + WORD SEPARATOR VERTICAL CROSS may refer to Christianity. As A. Róna-Tas stated, the Hungarians had contacts with Christianity from as early as the 5th century.[34]



a) *b)*

Figure 2-7/a,b: The identical inscriptions of the bowl No. 10 (*a*) and the cup No. 22 (*b*).[35]

Written in Carpathian Basin Rovas Font	[illegible]
IPA phonetic transcription	*left:* yrᵞtχ *right:* ᵚzᵞdoɣ
Translation from Hungarian	*left:* (*meaning debated*) *right:* 'Warming beverage'

[29] Hampel, 1884, pp. 1-166, 1-2
[30] Vékony, 1997
[31] http://mek.niif.hu/02700/02790/html/92.html
[32] Hosszú, 2011c
[33] E. Abaffy, 2003, p. 303
[34] Róna-Tas, 1999
[35] Németh, 1932a, p. 67

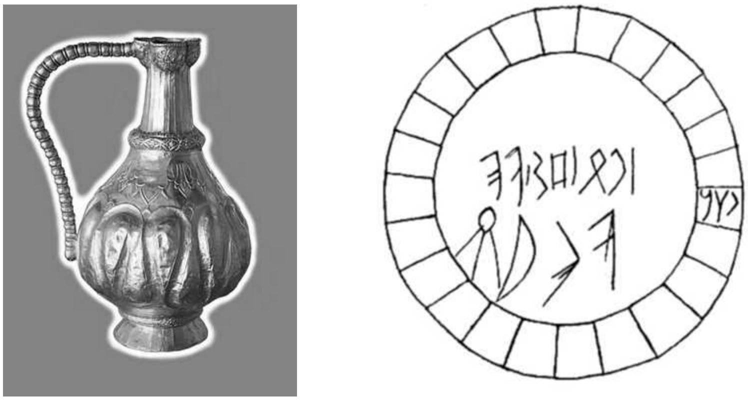


Figure 2-8: The photo of the No. 6 jug and the inscriptions on its bottom.[36]

The transcription of Ɜ⌷| ꭓ⅂| is /sïu̯-s^{y}r^{i}m/, its translation is '*filtered water*' from Onogur. The transcription of ᚩᚨ is /β^{i}z^{i}/, its meaning is '*water*' in Hungarian. Between the two inscriptions there is a symbol that can be presented with ˈ WORD SEPARATOR VERTICAL BAR. The transcription of ᛟD>ᚨ is /v^{o}d^{o}jɔ̃/ '*with water*' in Slavic. The fourth expression (ᑐY>) is in As or Alan language, its transcription is /dan$^{(u)}$/ '*water*'.

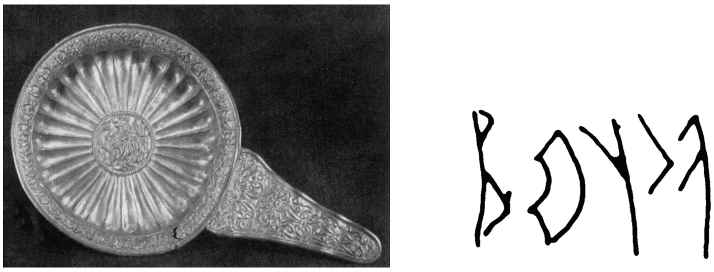


Figure 2-9: The photo of the No. 15 flat-shallow ladle and its inscription.[37]

Written in Carpathian Basin Rovas Font	ᛒᛞY>ᚨ
IPA phonetic transcription	β^{a}d^{u} eːtky̲
Translation from Hungarian	'forest food' (=fruit)

Figure 2-10: The inscriptions of the No. 5 jug.[38]

The transcription of |Ɜᑐ8 is /xïm^{ï}s/ or /qïm^{ï}s/, it is in Ogur. The transcription of Nᚨ0 is /ʃ^{a}β^{o}ɣ/; it is in Hungarian. The meaning of both inscriptions is '*whey*'.

The alphabet in Aethicus Ister's Cosmography was recorded in the mid 8th century.[39] *Fig.2-11* presents the Leipzig copy of the Aethicus Ister's manuscript. H. Löwe supposed that Aethicus Ister's book was the work of Saint Vergilius (746/7-784) Bishop of Salzburg and he recorded the Avars' script.[40] The alphabet is a record of an early version of the Carpathian Basin Rovas.[41] The original manuscript was lost, only calligraphic and partly distorted copies remained.

[36] Libisch, 2004
[37] Libisch, 2004
[38] Libisch, 2004
[39] Wuttke, 1853
[40] Löwe, 1976
[41] Vékony, 2004

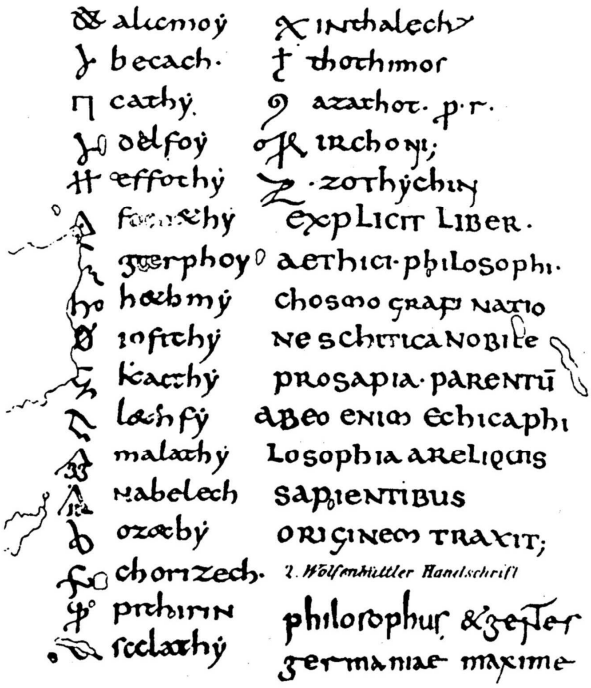
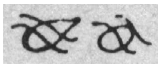
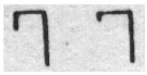
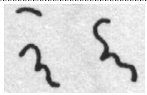
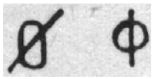
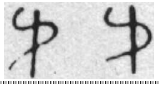
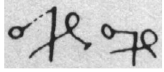
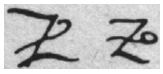


Figure 2-11: The Leipzig copy of Aethicus Ister's Alphabet, the original manuscript was made in mid 8th c.[42]

The detailed analysis of Aethicus Ister's Alphabet is presented in *Hosszú, 2011a*. This proposal contains only some letters of Aethicus. The *cathy* of Aethicus shows the form of the Carpathian Basin Rovas *𐳇 CS /t͡ʃ/.

Glyphs of the Aethicus Alphabet	Genealogy of the Aethicus characters	Cognate glyphs
	*alamoy* The copies are shaped to the Carolingian minuscule 𐳀 A.[43]	Khazarian Rovas 𐳉 E /ɛ/, Szekely-Hungarian Rovas 𐳊 E /ɛ/eː/, Glagolitic 𐳉 JEST /ɛ/
	*cathy*	Khazarian Rovas 𐳆, 𐳇 CS /t͡ʃ/s/ Szekely-Hungarian Rovas 𐳅, 𐳇 CS /t͡ʃ/
	*garphoy*	*𐳍 FORKED G /g/, Khazarian Rovas 𐳍 FORKED G /g/
	*iofithy*: The second (Oxford) copy is misleading; it was affected by the shape of the Greek PHI 𐳐, which was obviously known by the copier.	𐳋 LY /j/ʎ/ was the ancestor of SHR 𐳋, 𐳋 LY /ʎ/.
	*pithirin*	It is the calligraphic form of CBR 𐳃 P /p/. Also see its descendant SHR 𐳃 P /p/ and its sibling: KR 𐳃 P /p/.
	*irchoni* < *Onogur* /ïrɣun/ [written letter].[44] This glyph proves that the 𐳁 /i/ï/ existed in the 8th century in the Carpathian Basin Rovas.	Khazarian Rovas 𐳁 CIRCLE ENDED I /ï/

[42] Libisch, 2004
[43] Carolingian minuscule, article in Encyclopædia Britannica; Vékony, 2004, p. 233
[44] Vékony, 2004, p. 234-242

Glyphs of the Aethicus Alphabet	Genealogy of the Aethicus characters	Cognate glyphs
	*zotichin*: It was shaped to the Latin Z by the copier.	Calligraphic form of Carpathian Basin Rovas 𐳇 Z /z/ (glyph variant of the CBR 𐳇 Z /z/)

From the 10th century, magical inscriptions remained on a bone cover of a bow discovered in the cemetery No. 45 in Békés-Povádzug (Hungary).[45] The language of the inscriptions is Ogur, their transcription is /ᵘx/ *'arrow'*, /ᵒx/ is also possible according to Turkologist I. Vásáry.[46]

Figure 2-12: Two inscriptions of the bow from Békés-Povádzug.[47]

From the 11th century, there is an inscription fragment from the village Torja (Szekelyland, Romania),[48] see *Fig. 2-13*. The village had already existed in the 10th-11th century. According to J. Ráduly, its transcription is /ka:sᵒn/, which is the name of the area Kászon in Szekelyland (Romania).[49]

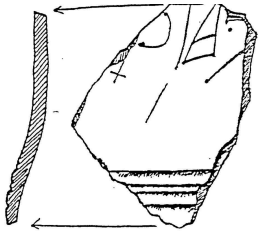


Figure 2-13: Pot fragment of Torja, 11th century.[50]

Examples for the use of revitalized script are seen on *Fig. 2-14, 15, 16, 17* & *18*.

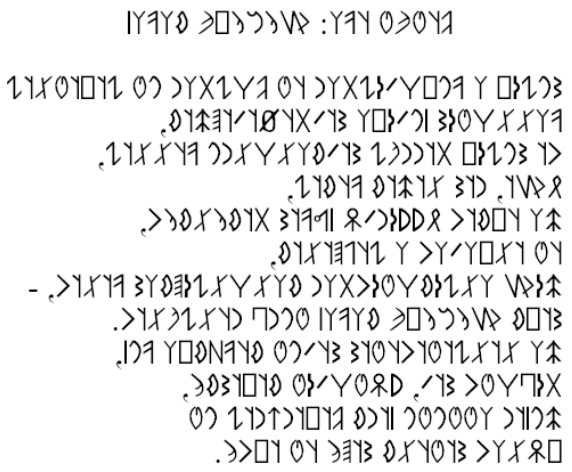


Figure 2-14: The poem titled "Wonderful Spring" (written by É. Fésüs) transcribed by M. Forrai jr., 2009.[51]

[45] Dienes, FolArch. XIV, 95 kk., Picture No. 36
[46] Vásáry, 2010-2011
[47] Libisch, 2004
[48] Székely, 1996
[49] Ráduly, 2008, p. 12
[50] Libisch, 2004
[51] Forrai, M. Jun., 2009

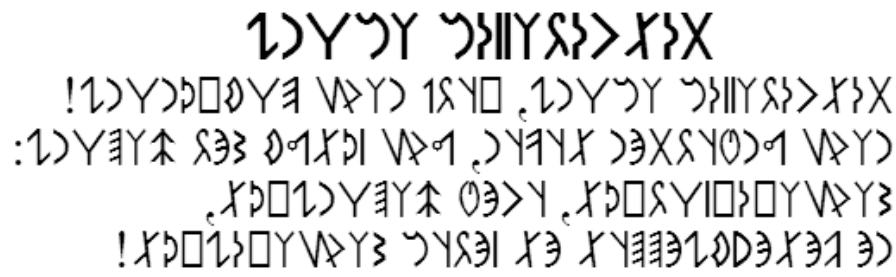


Figure 2-15: The Christian song *Blessed Lady Our Mother*, transcribed in 2009 (modified in 2011).[52]

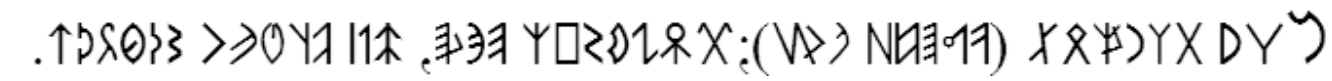


Figure 2-16: Pangram of E. Schwetter[53] transcribed with CBR by using casing, 2009 (modified in 2011). It contains each Carpathian Basin Rovas letter that corresponds to the standard Hungarian Latin alphabet.

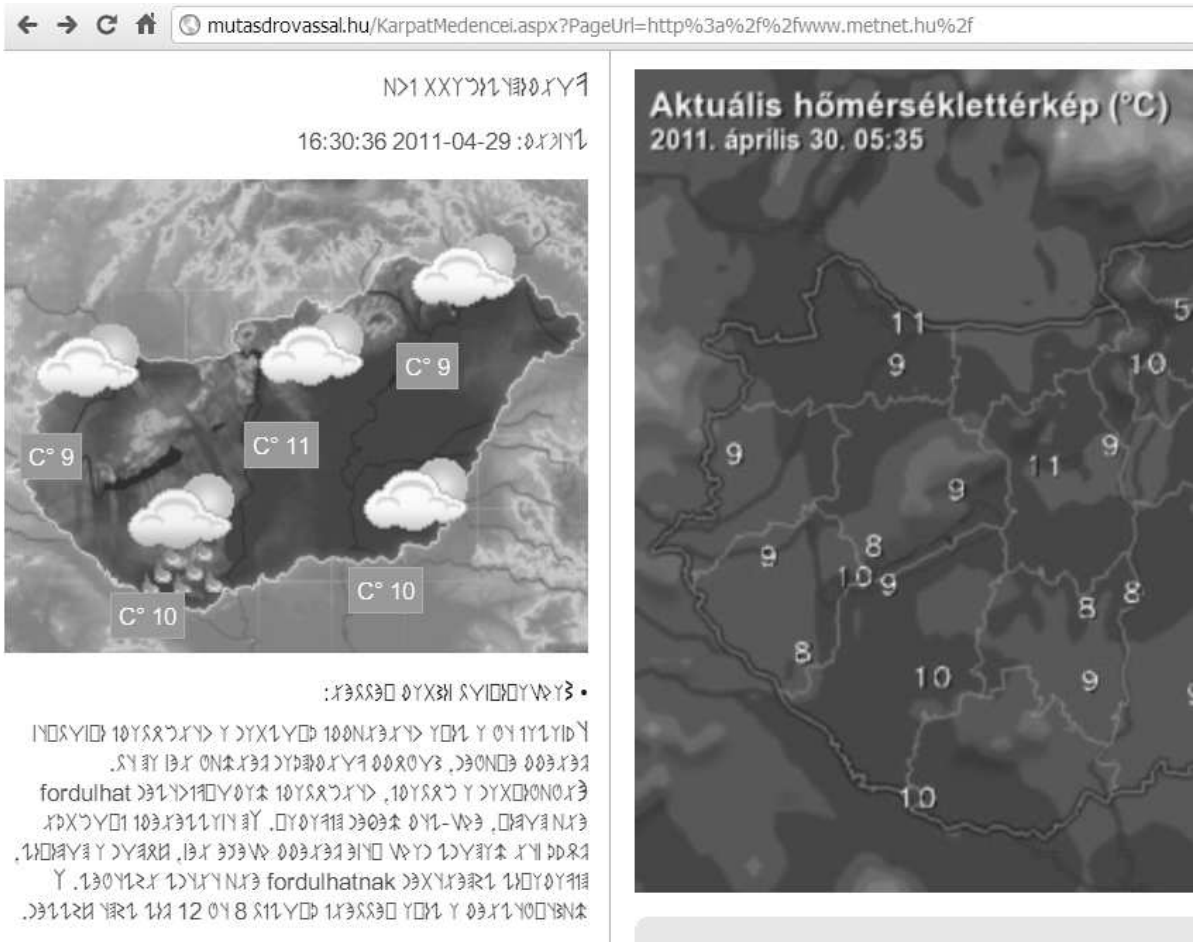


Figure 2-17: Product of Gy. Giczi's software (made in 2010) that transforms a web page written with Latin script to Carpathian Basin Rovas (retrieved in 2011)[54]

[52] Hosszú, web site
[53] Schwetter, Ernő: a pangram. In: Wikipedia, *http://hu.wikipedia.org*
[54] Giczi, web site from 2010

kutatók. Leginkább az | = 1, ^ = 5, X = 10; az 50 és 100 jele variálódott."

A fenti cikk Kárpát medencei rovással róva.

Figure 2-18: An article in the Rovas Info News Site, 2011.[55]

Figure 2-19: Part of an article in an on-line journal (Index.hu) transcribed to CBR by G. Kliha' software.[56] The original article contained images of welcome messages with SHR at the district border in Budapest. Since the textual part of the article was transcribed to CBR, inscriptions with both CBR and SHR are shown in the *Figure*.

[55] Rovas Info, web site, retrieved in 2011 from http://rovas.info/index.php/hu/hirek/54-kiemelt-hirek/588-a-rovas-500-as-jele
[56] Kliha, 2010-2011

3. Unicode Character Properties

In the following the proposed naming and coding of the CARPATHIAN BASIN ROVAS script is listed. These charts contain only proposed assignments and should not be considered valid until such time as the Unicode Consortium formally accepts them and ISO/IEC JTC1/SC2 formally approves them after an international ballot.

3.1. Code chart of the CARPATHIAN BASIN ROVAS in SMP

	1xx0	1xx1	1xx2	1xx3	1xx4	1xx5
0	1xx00	1xx10	1xx20	1xx30	1xx40	1xx50
1	1xx01	1xx11	1xx21	1xx31	1xx41	1xx51
2	1xx02	1xx12	1xx22	1xx32	1xx42	1xx52
3	1xx03	1xx13	1xx23	1xx33	1xx43	1xx53
4	1xx04	1xx14	1xx24	1xx34	1xx44	1xx54
5	1xx05	1xx15	1xx25	1xx35	1xx45	1xx55
6	1xx06	1xx16	1xx26	1xx36	1xx46	1xx56
7	1xx07	1xx17	1xx27	1xx37	1xx47	1xx57
8	1xx08	1xx18	1xx28	1xx38	1xx48	1xx58
9	1xx09	1xx19	1xx29	1xx39	1xx49	1xx59
A	1xx0A	1xx1A	1xx2A	1xx3A	1xx4A	1xx5A
B	1xx0B	1xx1B	1xx2B	1xx3B	1xx4B	1xx5B
C	1xx0C	1xx1C	1xx2C	1xx3C	1xx4C	1xx5C
D	1xx0D	1xx1D	1xx2D	1xx3D	1xx4D	1xx5D
E	1xx0E	1xx1E	1xx2E	1xx3E	1xx4E	1xx5E
F	1xx0F	1xx1F	1xx2F	1xx3F	1xx4F	1xx5F

1xx00 CARPATHIAN BASIN ROVAS Characters 1xx5F

UPPERCASE LETTERS

1xx00;  CARPATHIAN BASIN ROVAS CAPITAL LETTER A;Lu;0;R;;;;;N;;;;;
1xx01;  CARPATHIAN BASIN ROVAS CAPITAL LETTER AA;Lu;0;R;;;;;N;;;;;
1xx02;  CARPATHIAN BASIN ROVAS CAPITAL LETTER D;Lu;0;R;;;;;N;;;;;
1xx03;  CARPATHIAN BASIN ROVAS CAPITAL LETTER DZ;Lu;0;R;;;;;N;;;;;
1xx04;  CARPATHIAN BASIN ROVAS CAPITAL LETTER DZS;Lu;0;R;;;;;N;;;;;
1xx05;  CARPATHIAN BASIN ROVAS CAPITAL LETTER E;Lu;0;R;;;;;N;;;;;
1xx06;  CARPATHIAN BASIN ROVAS CAPITAL LETTER FORKED E;Lu;0;R;;;;;N;;;;;
1xx07;  CARPATHIAN BASIN ROVAS CAPITAL LETTER F;Lu;0;R;;;;;N;;;;;
1xx08;  CARPATHIAN BASIN ROVAS CAPITAL LETTER FORKED G;Lu;0;R;;;;;N;;;;;
1xx09;  CARPATHIAN BASIN ROVAS CAPITAL LETTER SHORT G;Lu;0;R;;;;;N;;;;;
1xx0A;  CARPATHIAN BASIN ROVAS CAPITAL LETTER GY;Lu;0;R;;;;;N;;;;;
1xx0B;  CARPATHIAN BASIN ROVAS CAPITAL LETTER H;Lu;0;R;;;;;N;;;;;
1xx0C;  CARPATHIAN BASIN ROVAS CAPITAL LETTER CH;Lu;0;R;;;;;N;;;;;
1xx0D;  CARPATHIAN BASIN ROVAS CAPITAL LETTER ANGLED I;Lu;0;R;;;;;N;;;;;
1xx0E;  CARPATHIAN BASIN ROVAS CAPITAL LETTER ARCHED I;Lu;0;R;;;;;N;;;;;
1xx0F;  CARPATHIAN BASIN ROVAS CAPITAL LETTER CIRCLE ENDED I;Lu;0;R;;;;;N;;;;;
1xx10;  CARPATHIAN BASIN ROVAS CAPITAL LETTER J;Lu;0;R;;;;;N;;;;;
1xx11;  CARPATHIAN BASIN ROVAS CAPITAL LETTER KUE;Lu;0;R;;;;;N;;;;;
1xx12;  CARPATHIAN BASIN ROVAS CAPITAL LETTER L;Lu;0;R;;;;;N;;;;;
1xx13;  CARPATHIAN BASIN ROVAS CAPITAL LETTER SIMPLE L;Lu;0;R;;;;;N;;;;;
1xx14;  CARPATHIAN BASIN ROVAS CAPITAL LETTER M;Lu;0;R;;;;;N;;;;;
1xx15;  CARPATHIAN BASIN ROVAS CAPITAL LETTER NG;Lu;0;R;;;;;N;;;;;
1xx16;  CARPATHIAN BASIN ROVAS CAPITAL LETTER NY;Lu;0;R;;;;;N;;;;;
1xx17;  CARPATHIAN BASIN ROVAS CAPITAL LETTER O;Lu;0;R;;;;;N;;;;;
1xx18;  CARPATHIAN BASIN ROVAS CAPITAL LETTER OO;Lu;0;R;;;;;N;;;;;
1xx19;  CARPATHIAN BASIN ROVAS CAPITAL LETTER OE;Lu;0;R;;;;;N;;;;;
1xx1A;  CARPATHIAN BASIN ROVAS CAPITAL LETTER SIMPLE P;Lu;0;R;;;;;N;;;;;
1xx1B;  CARPATHIAN BASIN ROVAS CAPITAL LETTER Q;Lu;0;R;;;;;N;;;;;
1xx1C;  CARPATHIAN BASIN ROVAS CAPITAL LETTER CLOSE R;Lu;0;R;;;;;N;;;;;
1xx1D;  CARPATHIAN BASIN ROVAS CAPITAL LETTER S;Lu;0;R;;;;;N;;;;;
1xx1E;  CARPATHIAN BASIN ROVAS CAPITAL LETTER CLOSE T;Lu;0;R;;;;;N;;;;;
1xx1F;  CARPATHIAN BASIN ROVAS CAPITAL LETTER ANGLED T;Lu;0;R;;;;;N;;;;;
1xx20;  CARPATHIAN BASIN ROVAS CAPITAL LETTER U;Lu;0;R;;;;;N;;;;;
1xx21;  CARPATHIAN BASIN ROVAS CAPITAL LETTER RAISED U;Lu;0;R;;;;;N;;;;;
1xx22;  CARPATHIAN BASIN ROVAS CAPITAL LETTER UE;Lu;0;R;;;;;N;;;;;
1xx23;  CARPATHIAN BASIN ROVAS CAPITAL LETTER UEE;Lu;0;R;;;;;N;;;;;
1xx24;  CARPATHIAN BASIN ROVAS CAPITAL LETTER W;Lu;0;R;;;;;N;;;;;
1xx25;  CARPATHIAN BASIN ROVAS CAPITAL LETTER X;Lu;0;R;;;;;N;;;;;
1xx26;  CARPATHIAN BASIN ROVAS CAPITAL LETTER Y;Lu;0;R;;;;;N;;;;;
1xx27;  CARPATHIAN BASIN ROVAS CAPITAL LETTER Z;Lu;0;R;;;;;N;;;;;
1xx28; (This position shall not be used)
1xx29; (This position shall not be used)
1xx2A; (This position shall not be used)

1xx2B; (This position shall not be used)
1xx2C; (This position shall not be used)
1xx2D; (This position shall not be used)
1xx2E; (This position shall not be used)
1xx2F; (This position shall not be used)

LOWERCASE LETTERS

1xx30; 𐳀 CARPATHIAN BASIN ROVAS SMALL LETTER A;Ll;0;R;;;;;N;;;;;
1xx31; 𐳁 CARPATHIAN BASIN ROVAS SMALL LETTER AA;Ll;0;R;;;;;N;;;;;
1xx32; 𐳂 CARPATHIAN BASIN ROVAS SMALL LETTER D;Ll;0;R;;;;;N;;;;;
1xx33; 𐳃 CARPATHIAN BASIN ROVAS SMALL LETTER DZ;Ll;0;R;;;;;N;;;;;
1xx34; 𐳄 CARPATHIAN BASIN ROVAS SMALL LETTER DZS;Ll;0;R;;;;;N;;;;;
1xx35; 𐳅 CARPATHIAN BASIN ROVAS SMALL LETTER E;Ll;0;R;;;;;N;;;;;
1xx36; 𐳆 CARPATHIAN BASIN ROVAS SMALL LETTER FORKED E;Ll;0;R;;;;;N;;;;;
1xx37; 𐳇 CARPATHIAN BASIN ROVAS SMALL LETTER F;Ll;0;R;;;;;N;;;;;
1xx38; 𐳈 CARPATHIAN BASIN ROVAS SMALL LETTER FORKED G;Ll;0;R;;;;;N;;;;;
1xx39; 𐳉 CARPATHIAN BASIN ROVAS SMALL LETTER SHORT G;Ll;0;R;;;;;N;;;;;
1xx3A; 𐳊 CARPATHIAN BASIN ROVAS SMALL LETTER GY;Ll;0;R;;;;;N;;;;;
1xx3B; 𐳋 CARPATHIAN BASIN ROVAS SMALL LETTER H;Ll;0;R;;;;;N;;;;;
1xx3C; 𐳌 CARPATHIAN BASIN ROVAS SMALL LETTER CH;Ll;0;R;;;;;N;;;;;
1xx3D; 𐳍 CARPATHIAN BASIN ROVAS SMALL LETTER ANGLED I;Ll;0;R;;;;;N;;;;;
1xx3E; 𐳎 CARPATHIAN BASIN ROVAS SMALL LETTER ARCHED I;Ll;0;R;;;;;N;;;;;
1xx3F; 𐳏 CARPATHIAN BASIN ROVAS SMALL LETTER CIRCLE ENDED I;Ll;0;R;;;;;N;;;;;
1xx40; 𐳐 CARPATHIAN BASIN ROVAS SMALL LETTER J;Ll;0;R;;;;;N;;;;;
1xx41; 𐳑 CARPATHIAN BASIN ROVAS SMALL LETTER KUE;Ll;0;R;;;;;N;;;;;
1xx42; 𐳒 CARPATHIAN BASIN ROVAS SMALL LETTER L;Ll;0;R;;;;;N;;;;;
1xx43; 𐳓 CARPATHIAN BASIN ROVAS SMALL LETTER SIMPLE L;Ll;0;R;;;;;N;;;;;
1xx44; 𐳔 CARPATHIAN BASIN ROVAS SMALL LETTER M;Ll;0;R;;;;;N;;;;;
1xx45; 𐳕 CARPATHIAN BASIN ROVAS SMALL LETTER NG;Ll;0;R;;;;;N;;;;;
1xx46; 𐳖 CARPATHIAN BASIN ROVAS SMALL LETTER NY;Ll;0;R;;;;;N;;;;;
1xx47; 𐳗 CARPATHIAN BASIN ROVAS SMALL LETTER O;Ll;0;R;;;;;N;;;;;
1xx48; 𐳘 CARPATHIAN BASIN ROVAS SMALL LETTER OO;Ll;0;R;;;;;N;;;;;
1xx49; 𐳙 CARPATHIAN BASIN ROVAS SMALL LETTER OE;Ll;0;R;;;;;N;;;;;
1xx4A; 𐳚 CARPATHIAN BASIN ROVAS SMALL LETTER SIMPLE P;Ll;0;R;;;;;N;;;;;
1xx4B; 𐳛 CARPATHIAN BASIN ROVAS SMALL LETTER Q;Ll;0;R;;;;;N;;;;;
1xx4C; 𐳜 CARPATHIAN BASIN ROVAS SMALL LETTER CLOSE R;Ll;0;R;;;;;N;;;;;
1xx4D; 𐳝 CARPATHIAN BASIN ROVAS SMALL LETTER S;Ll;0;R;;;;;N;;;;;
1xx4E; 𐳞 CARPATHIAN BASIN ROVAS SMALL LETTER CLOSE T;Ll;0;R;;;;;N;;;;;
1xx4F; 𐳟 CARPATHIAN BASIN ROVAS SMALL LETTER ANGLED T;Ll;0;R;;;;;N;;;;;
1xx50; 𐳠 CARPATHIAN BASIN ROVAS SMALL LETTER U;Ll;0;R;;;;;N;;;;;
1xx51; 𐳡 CARPATHIAN BASIN ROVAS SMALL LETTER RAISED U;Ll;0;R;;;;;N;;;;;
1xx52; 𐳢 CARPATHIAN BASIN ROVAS SMALL LETTER UE;Ll;0;R;;;;;N;;;;;
1xx53; 𐳣 CARPATHIAN BASIN ROVAS SMALL LETTER UEE;Ll;0;R;;;;;N;;;;;
1xx54; 𐳤 CARPATHIAN BASIN ROVAS SMALL LETTER W;Ll;0;R;;;;;N;;;;;
1xx55; 𐳥 CARPATHIAN BASIN ROVAS SMALL LETTER X;Ll;0;R;;;;;N;;;;;
1xx56; 𐳦 CARPATHIAN BASIN ROVAS SMALL LETTER Y;Ll;0;R;;;;;N;;;;;
1xx57; 𐳧 CARPATHIAN BASIN ROVAS SMALL LETTER Z;Ll;0;R;;;;;N;;;;;
1xx58; (This position shall not be used)
1xx59; (This position shall not be used)
1xx5A; (This position shall not be used)
1xx5B; (This position shall not be used)
1xx5C; (This position shall not be used)
1xx5D; (This position shall not be used)
1xx5E; (This position shall not be used)
1xx5F; (This position shall not be used)

3.2. Code chart of the PUNCTUATION SYMBOLS in the Supplemental Punctuation block of the BMP

2E00 **Supplemental Punctuation (portion)** **2E7F**

	27x
x	+ 27xx
y	ˈ 27xy

Carpathian Basin Rovas Punctuation

27xx + WORD SEPARATOR VERTICAL CROSS
- Used in historic Carpathian Basin Rovas inscriptions
- Used in historic Szekely-Hungarian Rovas inscriptions
- Usually uses full cap height

→ 002B Plus Sign

27xy ˈ WORD SEPARATOR VERTICAL BAR
- Used in historic Carpathian Basin Rovas inscriptions
- Used in historic Khazarian Rovas inscriptions

→ 05C0 Hebrew Punctuation Paseq

4. Fundamental decisions taken in the encoding

4.1. History of the script

The individual development of the Carpathian Basin Rovas started when the Carpathian Basin was occupied by the Avars in 567 and then by the Onogurs in 670. From that time the Rovas scripting in the Carpathian Basin evolved in isolation from the Khazarian Rovas. CBR was used up to the 11th c., later became extinct. In 2009, the script was revitalized and slightly extended in order to fit the modern Hungarian language. In this procedure same techniques were applied that were used during the history of the native development of its descendant script, the Szekely-Hungarian Rovas. The most important technique was assigning the historical glyph variants distinctive sound values. Further technique was borrowing the glyphs of ᛏ C /t͡s/ and ᛉ ZS /ʒ/ from the Szekely-Hungarian Rovas. Finally some letters were created as ligatures for the /t͡s/, /d͡z/, /d͡ʒ/, /ks/, /i/j/, /ʒ/. Their forms are frozen and turned into new letters similarly to the cases of the W<V+V and &<E+T. These characters are regarded as individual characters in the contemporary Carpathian Basin Rovas orthography; see *Fig. 2-14, 15, 16, 17* & *18*.

4.2. Examples for the use of the Carpathian Basin Rovas characters

Glyph	Name	Examples of the glyph in relics and publications
ᛉ	A	- Kiskőrös, drinking cup, *Fig. 2-2* - Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14*
ᛘ	AA	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4* - Web site transcribed by Giczi's software, *Fig. 2-17* - Web site transcribed by Giczi's software, *Fig. 2-17*
ᚷ	B	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4* - Szarvas, needle case, 8th c., *Fig. 2-5*

Glyph	Name	Examples of the glyph in relics and publications
𐳀	C	- Pangram of Schwetter, 2009 (modified in 2011), *Fig. 2-16* - An article in the Rovas Info News Site, *Fig. 2-18*
𐳁	CS	- Alphabet of Aethicus Ister, 8th c., *Fig. 2-11, simplified glyph:* 𐳁 - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14, glyph:* 𐳁 - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳂	D	- Környe, bow, the end of the 7th c., *Fig. 2-3* - Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., *Fig. 2-7/a* & *b* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳃	DZ	- Pangram of Schwetter, 2009 (modified in 2011), *Fig. 2-16*
𐳄	DZS	- Pangram of Schwetter, 2009 (modified in 2011), *Fig. 2-16*
𐳅	E	- Alphabet of Aethicus Ister, 8th c., *Fig. 2-11, calligraphic:* 𐳅 - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳆	FORKED E	- Szarvas, needle case, 8th c., *Fig. 2-5* - Nagyszentmiklós, flat-shallow ladle No. 15, 9th-10th c. *Fig. 2-9* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳇	F	- Szarvas, needle case, *Fig. 2-5* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳈	FORKED G	- Alphabet of Aethicus Ister, 8th c., *Fig. 2-11, calligraphic:* 𐳈 - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳉	SHORT G	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4, in a ligature:* 𐳉 - Szarvas, needle case, 8th c., *Fig. 2-5* - An article in the Rovas Info News Site, *Fig. 2-18*
𐳊	GY	- Szarvas, needle case, 8th c., *Fig. 2-5* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳋	H	- Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., *Fig. 2-7/a* & *b* - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳌	CH	- Békés-Povádzug, bone cover of a bow, 10th c., *Fig. 2-12*
𐳍	ANGLED I	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4, in a ligature:* 𐳍 - Szarvas, needle case, 8th c., *Fig. 2-5, mirrored glyph* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳎	ARCHED I	- Szarvas, needle case, 8th c., *Fig. 2-5* - Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, jug No. 5, 9th-10th c., *Fig. 2-10*
𐳏	CIRCLE ENDED I	- Alphabet of Aethicus Ister, 8th c., *Fig. 2-11, calligraphic:* 𐳏 - An article in the Rovas Info News Site, *Fig. 2-18* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳐	J	- Szarvas, needle case, 8th c., *Fig. 2-5* - Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8*
𐳑	OPEN K	- Szarvas, needle case, 8th c., *Fig. 2-5* - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*

Glyph	Name	Examples of the glyph in relics and publications
𐳀	TRIANGULAR K	- Torja, pot fragment, 11th c., *Fig. 2-13, in a ligature*
𐳁	KUE	- Nagyszentmiklós, flat-shallow ladle No. 15, 9th-10th c. *Fig. 2-9*
𐳂	L	- Szarvas, needle case, 8th c., *Fig. 2-5* - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳃	SIMPLE L	- Környe, bow, the end of the 7th c., *Fig. 2-3*
𐳄	LY	- Alphabet of Aethicus Ister, 8th c., *Fig. 2-11, glyph:* 𐳄 - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳅	M	- Szarvas, needle case, *Fig. 2-5* - Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8* - Nagyszentmiklós, jug No. 5, 9th-10th c., *Fig. 2-10* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳆	N	- Környe, bow, the end of the 7th c., *Fig. 2-3* - Szarvas, needle case, 8th c., *Fig. 2-5* - Torja, pot fragment, 11th c., *Fig. 2-13, in a ligature*
𐳇	NG	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4, in ligatures:* 𐳇, 𐳅 - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳈	NY	- Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳉	O	- Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., *Fig. 2-7/a* & *b* - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳊	OO	- Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳋	OE	- Journal article transcribed by Kliha' software, *Fig. 2-19* - Pangram of Schwetter, 2009 (modified in 2011), *Fig. 2-16* - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳌	GH	- Ozora-Tótipuszta, silver vessel, *Fig. 2-1, in a ligature* - Környe, bow, the end of the 7th c., *Fig. 2-3* - Szarvas, needle case, 8th c., *Fig. 2-5, mirrored glyph:* 𐳌 - Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, jug No. 5, 9th-10th c., *Fig. 2-10, mirrored glyph:* 𐳌 - Web site transcribed by Giczi's software, *Fig. 2-17*
𐳍	P	- Alphabet of Aethicus Ister, 8th c., *Fig. 2-11*, *calligraphic:* 𐳍 - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳎	SIMPLE P	- Kiskőrös, drinking cup, *Fig. 2-2*
𐳏	Q	- Nagyszentmiklós, jug No. 5, 9th-10th c., *Fig. 2-10, glyph:* 𐳏
𐳐	CLOSE R	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4, in a ligature* - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., *Fig. 2-7/a* & *b* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
𐳑	S	- Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, jug No. 5, 9th-10th c., *Fig. 2-10* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14*

Glyph	Name	Examples of the glyph in relics and publications
	SZ	- Ozora-Tótipuszta, silver vessel, 670-790, *Fig. 2-1* - Jánoshida, needle case, last third of the 7th c., *Fig. 2-4* - Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8*
	CLOSE T	- Szarvas, needle case, 8th c., *Fig. 2-5* - Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., *Fig. 2-7/a* & *b*
	ANGLED T	- Ozora-Tótipuszta, silver vessel, 670-790, *Fig. 2-1* - Kiskőrös, drinking cup, *Fig. 2-2, in a ligature* - Környe, bow, the end of the 7th c., *Fig. 2-3, glyph:*
	U	- Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14* - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
	RAISED U	- Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8* - Pangram of Schwetter, 2009 (modified in 2011), *Fig. 2-16* - Web site transcribed by Giczi's software, *Fig. 2-17* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
	UE	- Szarvas, needle case, 8th c., *Fig. 2-5* - An article in the Rovas Info News Site, *Fig. 2-18* - On-line journal article transcribed by Kliha' software, *Fig. 1-19*
	UEE	- Jánoshida, needle case, last third of the 7th c., *Fig. 2-4, in a ligature:* - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., *Fig. 2-7/a* & *b* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14*
	OPEN V	- Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Nagyszentmiklós, jug No. 6, 9th-10th c., *Fig. 2-8* - Nagyszentmiklós, flat-shallow ladle No. 15, 9th-10th c. *Fig. 2-9* - Poem transcribed by M. Forrai jr., 2009, *Fig. 2-14*
	W	- Környe, bow, the end of the 7th c., *Fig. 2-3*
	X	- An article in the Rovas Info News Site, *Fig. 2-18*
	Y	- An article in the Rovas Info News Site, *Fig. 2-18*
	Z	- Szarvas, needle case, 8th c., *Fig. 2-5* - Alphabet of Aethicus Ister, 8th c., *Fig. 2-11* - Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b* - Web site transcribed by Giczi's software, *Fig. 2-17*
	ZS	- Pangram of Schwetter, 2009 (modified in 2011), *Fig. 2-16*

The characters in the following *Table* are identical to the appropriate Szekely-Hungarian Rovas characters. Thus, there is no urge to encode them individually. Instead, the appropriate Rovas characters from the Szekely-Hungarian Rovas script (latest proposal: N4007, 2011-01-21) might be used here.[57]

Glyph	Name of the identical Szekely-Hungarian Rovas characters
	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER B
	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER C
	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CS
	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN K

[57] Hosszú, 2011b

Glyph	Name of the identical Szekely-Hungarian Rovas characters
𐳀	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER TRIANGULAR K
𐳁	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER LY
𐳂	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER N
𐳃	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER GH
𐳄	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER P
𐳅	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER SZ
𐳆	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN V
𐳇	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER ZS
𐳈	SZEKELY-HUNGARIAN ROVAS SMALL LETTER B
𐳉	SZEKELY-HUNGARIAN ROVAS SMALL LETTER C
𐳊	SZEKELY-HUNGARIAN ROVAS SMALL LETTER CS
𐳋	SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN K
𐳌	SZEKELY-HUNGARIAN ROVAS SMALL LETTER TRIANGULAR K
𐳍	SZEKELY-HUNGARIAN ROVAS SMALL LETTER LY
𐳎	SZEKELY-HUNGARIAN ROVAS SMALL LETTER N
𐳏	SZEKELY-HUNGARIAN ROVAS SMALL LETTER GH
𐳐	SZEKELY-HUNGARIAN ROVAS SMALL LETTER P
𐳑	SZEKELY-HUNGARIAN ROVAS SMALL LETTER SZ
𐳒	SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN V
𐳓	SZEKELY-HUNGARIAN ROVAS SMALL LETTER ZS

4.3. Numbers

The Carpathian Basin Rovas script has two known numbers FIVE 𐳆 and TEN 𐳇 based on the known relics (*Fig. 2-1* and *2-2*). These are identical to the Rovas numbers of the Szekely-Hungarian Rovas script; therefore they do not need individual code points.[58]

4.4. Punctuation

The Carpathian Basin Rovas has two punctuation marks used for separating words or sentences, see following *Table*. These seem to be generic enough to be included into the Supplemental Punctuation block. The WORD SEPARATOR VERTICAL BAR differs from the character-height sized HEBREW PUNCTUATION PASEQ' (U+05C0), since it is much shorter than the character height.

Glyph	Name of the Carpathian Basin Rovas character	Examples of the glyph in the relics
𐳔	WORD SEPARATOR VERTICAL CROSS	- Nagyszentmiklós, bowl No. 8, 9th-10th c., *Fig. 2-6/a* & *b*
𐳕	WORD SEPARATOR VERTICAL BAR	- Needle Case of Szarvas, *Fig. 2-5* - Bowl No. 10 from Nagyszentmiklós, *Fig. 2-7/a* - Cup No. 22 from Nagyszentmiklós, *Fig. 2-7/b* - Jug No. 6 from Nagyszentmiklós, *Fig. 2-8*

4.5. Ligatures

Ligatures were occasionally used in the Carpathian Basin Rovas script. These ligatures do not need individual code points, since they are stylistic, only. Therefore, they can be represented by some sequence of characters. Nevertheless,

[58] Hosszú, 2011b

the implementations will need to give the user localized control over ligation (perhaps by supporting ZWJ). The following *Table* presents some ligatures found in the known relics.

Glyph	Transcription	Name of the ligature	Constituents of the ligatures
𐳰	ᵘxᵘx	CHCH	𐳴 CH /x/ + 𐳴 CH /x/
𐳽	iŋ	ING	𐳹 ANGLED I /i/ + 𐳽 NG /ŋ/
𐳸	iɣ	IGH	𐳹 ANGLED I /i/ + 𐳾 GH /ɣ/
𐳫	kaː	KAA	𐳪 TRIANGULAR K /k/ + 𐳻 FORKED E /aː/
𐳿	ŋy	NGUE	𐳽 NG /ŋ/ + 𐳿 UE /y/
𐳎	rg	RG	𐳏 CLOSE R /r/+ 𐳇 G /g/
𐳚	tɑ/ɛ	TA	𐳜 ANGLED T /t/ + 𐳺 A /ɑ/
𐳜	tï	TI	𐳜 ANGLED T /t/ + 𐳹 ANGLED I /i/
𐳏𐳵	ßᵒrɣ	WORGH	𐳵 OPEN V /ß/ + 𐳏 CLOSE R /r/ + 𐳾 GH /ɣ/

5. Ordering

In ordering the Common Template Table defined in the International Standard ISO/IEC 14651 is adapted.[59] The ordering requires different levels:

Level 1

The first level renders the texts to be sorted case-insensitive and insensitive to diacritical marks, and to all special characters. In the case of the Carpathian Basin Rovas the following order is required:

𐳺 A < 𐳻 AA < 𐳼 B < 𐳽 C < 𐳾 CS < 𐳿 D < 𐴀 DZ < 𐴁 DZS < 𐴂 E< 𐳻 FORKED E < 𐳵 F < 𐳇 FORKED G < 𐳈 SHORT G < 𐳉 GY < 𐳴 H < 𐳴 CH < 𐳹 ANGLED I < 𐳷 ARCHED I < 𐳶 CIRCLE ENDED I < 𐳊 J < 𐳲 OPEN K < 𐳪 TRIAGULAR K < 𐳫 KUE < 𐳬 L < 𐳭 SIMPLE L < 𐳮 LY < 𐳯 M < 𐳰 N < 𐳽 NG < 𐳱 NY < 𐳲 O < 𐳳 OO < 𐳴 OE < 𐳾 GH < 𐳸 P < 𐳹 SIMPLE P < 𐳺 Q < 𐳏 CLOSE R < 𐳻 S < 𐳼 SZ < 𐳽 CLOSE T < 𐳜 ANGLED T < 𐳝 U < 𐳞 RAISED U < 𐳿 UE < 𐳿 UEE < 𐳵 OPEN V < 𐳶 W < 𐳷 X < 𐳊 Y < 𐳸 Z < 𐳻 ZS

Level 2

This breaks ties on quasi-homographs (strings differ only because they have different diacritical marks). In the case of the Carpathian Basin Rovas there is not any diacritical mark; however, it cannot be disclosed that someone will use any kind of combining character in entering the data.[60]

Level 3

This level breaks ties for quasi-homographs that differ only because uppercase and lowercase characters are used. In case of the Carpathian Basin Rovas scripts all characters have uppercase and lowercase versions.

Level 4

The fourth level breaks the final tie that, in general, does not correspond to any strong tradition, namely, the tie between quasi-homographs differing only because they contain special characters. In the case of the Carpathian Basin Rovas the Level 4 of the ordering does not differ from similar level in the case of the Hungarian Latin orthography.

[59] LaBonté, 2007a & 2007b
[60] LaBonté, 2010

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8. Appendix: Proposal Summary Form

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[61]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html **for guidelines and details before filling this form.**
Please ensure you are using the latest Form from http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html **.**
See also http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html **for latest *Roadmaps*.**

A. Administrative

1. **Title:** **Proposal for encoding the Carpathian Basin Rovas script in the SMP of the UCS**
2. Requester's name: **Hungarian Standards Institution**
3. Requester type (Member body/Liaison/Individual contribution): Member body
4. Submission date: May 19, 2011
5. Requester's reference (if applicable): *http://www.mszt.hu/angol/index_eng.htm*
6. Choose one of the following:
   This is a complete proposal: *Yes*
   (or) More information will be provided later:

B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters): *Yes*
   Proposed name of script: **Carpathian Basin Rovas**
   b. The proposal is for addition of character(s) to an existing block: *No*
   Name of the existing block:
2. Number of characters in proposal: *82*
3. Proposed category (select one from below - see section 2.2 of P&P document):
   A-Contemporary X B.1-Specialized (small collection) B.2-Specialized (large collection)
   C-Major extinct D-Attested extinct E-Minor extinct
   F-Archaic Hieroglyphic or Ideographic G-Obscure or questionable usage symbols
4. Is a repertoire including character names provided? *Yes*
   a. If YES, are the names in accordance with the "character naming guidelines"
   in Annex L of P&P document? *Yes*
   b. Are the character shapes attached in a legible form suitable for review? *Yes*
5. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for
   publishing the standard? *Dr. Gábor Hosszú*
   If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools
   used: *Dr. Gábor Hosszú, FontCreator 5.6, hosszu@eet.bme.hu*
6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *Yes*
   b. Are published examples of use (such as samples from newspapers, magazines, or other sources)
   of proposed characters attached? *Yes*

[61] Form number: N3152-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05)

7. Special encoding issues:

Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? *Yes*

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see http://www.unicode.org/Public/UNIDATA/UCD.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard. – **See below.**

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? *No*

If YES explain

2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? *Yes*

If YES, with whom? *National Standardisation Technical Committee called Informatics (MSZT/MB 819) of the Hungarian Standards Institution,*

Rovas Foundation

Márton Forrai Jr., Péter Füzi, György Giczi, Dániel Gribek, Levente Horváth, Dr. Gábor Hosszú, Gergely Kliha, Angéla Ócsai, Tamás Rumi, László Sípos, Tamás Somfai, Levente Sütő, Zsuzsanna Éva Szabó, Gábor Szentimrei, Erik Vida, Árpád Zubrits et al.

If YES, available relevant documents: *Yes*

3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? *Yes*

Reference: *Historical use by mainly Hungarians in the Carpathian Basin and nowadays potential use by Hungarian Rovas writers.*

4. The context of use for the proposed characters (type of use; common or rare) *Rare*

Reference: *Historical and contemporary use, http://rovasirashonlap.fw.hu, http://ifjforraimarton.fw.hu*

5. Are the proposed characters in current use by the user community? Yes

If YES, where? Reference: *Scholarly and popular publications.*
The Rovas Writing Home Page: http://rovasirashonlap.fw.hu
Rovas Info News Site: http://rovas.info
The Rovas page by Márton Forrai jun.: http://ifjforraimarton.fw.hu/
Rovas Transcribe Site: http://mutasdrovassal.hu/KarpatMedencei.aspx

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? *No*

If YES, is a rationale provided?

If YES, reference:

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? *Yes*

8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? *No*

If YES, is a rationale for its inclusion provided?

If YES, reference:

9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? *No*

If YES, is a rationale for its inclusion provided?

If YES, reference:

10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? *No*

If YES, is a rationale for its inclusion provided?

If YES, reference:

11. Does the proposal include use of combining characters and/or use of composite sequences? *No*

If YES, is a rationale for such use provided?

If YES, reference:

Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? *No*

If YES, reference:

12. Does the proposal contain characters with any special properties such as control function or similar semantics? *No*

If YES, describe in detail (include attachment if necessary)

13. Does the proposal contain any Ideographic compatibility character(s)? *No*

If YES, is the equivalent corresponding unified ideographic character(s) identified?

If YES, reference: