

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

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This proposal contains the proposal summary form. Please send any responses to this proposal to Gábor Hosszú (email: hosszu@ect.bme.hu).

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1. Summary

The *Carpathian Basin Rovas* /ka:'peɪθjən 'beɪsn rova:f/ (CBR) script is an extinct writing system, which was revitalized in 2009. Based on the archaeological findings the use of CBR is proved in 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 CBR is closely cognate to its sibling, the *Khazarian Rovas* (KR)³ and it is the ancestor of the *Szekely-Hungarian Rovas* (SHR)⁴ They differ from the Runic (its subgroups: early

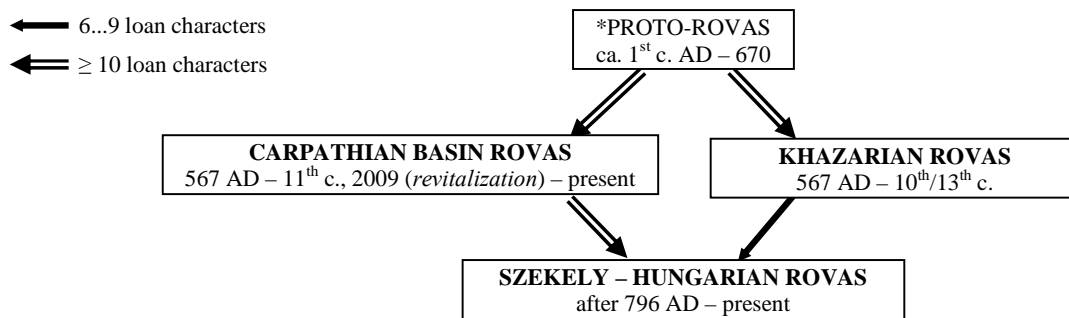
¹ Vékony, 2002

² Hosszú, 2011b & 2011c

³ Vékony, 1986; Hosszú, 2011c

⁴ Hosszú, 2011b; Sándor, 1992, p. 7-8

German, 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 shown below. The *Proto-Rovas script is a hypothetical common ancestor used North to the Caucasus and the Black Sea by the As-Alans from the 1st c. AD,⁷ it is finally derived from the Aramaic script.



The direction of CBR is right-to-left. There is no casing in the known relics. However, due to the revitalization and the different types of publication, including modern books and other texts casing is necessary.

2. Some examples of the Carpathian Basin Rovas script

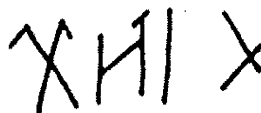


Figure 2-1: Inscription from the silver vessel of Ozora-Tótipusztza, last third of 7th c. AD.⁸

The transcription of $\chi\eta\eta\chi$ is /10 sīyat/, its translation from Ogur is “10 [pieces] can go in”.

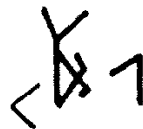


Figure 2-2: Inscription of the drinking cup of Kiskőrös-Vágóhíd, last third of 7th c. AD.⁹

The numeral is earlier than the textual inscription. Maybe it denoted the weight of the value of the cup. Its transcription is \vee , its meaning was “5”. The transcription of the $\chi\eta$ inscription is probable /pʉtʉ/ ‘louse’ in Ogur.

The inscription on Fig. 2-3 was found on the remains of a bow from the end of the 7th century in Környe (Hungary).¹⁰ Its meaning is an archaic Hungarian magical text for ensuring the successful operation of the bow.¹¹ Its transcription was improved by linguist E. Zelliger.¹²

⁵ Sebestyén, 1909, p. 288; Róna-Tas, 1995, p. 273; Róna-Tas, 1996, p. 581

⁶ Hosszú, 2011a

⁷ Hosszú, 2011a

⁸ Vékony, 2004; Erdélyi & Ráduly, 2010

⁹ Vékony, 2004

¹⁰ Erdélyi, 1969; Erdélyi, 1982, p. 183

¹¹ Vékony, 2004

¹² Zelliger, 2010

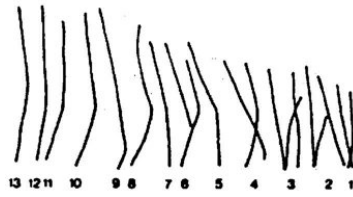


Figure 2-3: The Rovas inscription from Környe.¹³

Written in Carpathian Basin Rovas Font	᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚ ᳚
IPA phonetic transcription	tʰɣ̌ iɣ̌atʰ iβ ^e id n ^u i ^a i εiɛn
Translation from Hungarian	‘Shoot arrows with [this] bow against [him]!’

The needle case from last third of the 7th c. was discovered by I. Erdélyi in 1958, Fig. 2-4 presents its two sides.¹⁴



Figure 2-4: Two sides of the Rovas inscription of the needle case from Jánoshida.¹⁵

Written in Carpathian Basin Rovas Font	ΥΥ / ΘΞ ΙΧ
IPA phonetic transcription	ɪŋε / b ^a s ʏŋyɾ ^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).¹⁶ Fig. 2-1 presents the drawing of the inscription that was 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.¹⁷ Its transcription was improved by linguist E. Zelliger.¹⁸

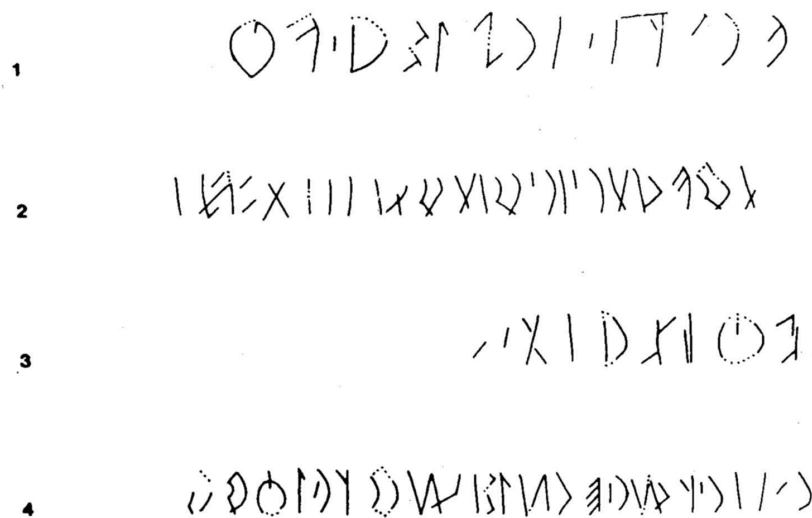


Figure 2-5: The bone needle case Rovas inscription of Szarvas.¹⁹

¹³ Libisch, 2004

¹⁴ Erdélyi, 1958a, p. 39, Table XLIV/2; Erdélyi, 1958b, pp. 55-56; Erdélyi, 1961, pp. 279-280

¹⁵ Libisch, 2004

¹⁶ Róna-Tas, 1996, p. 108

¹⁷ Vékony, 1987b, Figure 2

¹⁸ Zelliger, 2010

¹⁹ Libisch, 2004

Written in Carpathian Basin Rovas Font	<p style="text-align: right;"> 09 D31 1) □/ > ☒ 1X □ N0 N0 > >V90 N X1 D X 101 >>00) >Y 0 V9B1 N>9 >V9Y > □/ > </p>
IPA phonetic transcription ²⁰	<p> yng^yr : sⁱn^εk imⁱλ : β^aɲ^u [t]ⁱɣ t^εβ^εdʒⁱeⁿ : sⁱeⁿ : tⁱɣ tⁱɣ s^ur^ɔ b^ek^ɔ β^orɣ f^εf^εs : εⁱeⁱ s³l [...] yng^yr n^e : e^dʒⁱeⁿ : i^d-e^ɣ im^es^d-e^ɣ tⁱεn : i^ft^εn^em </p>
Translation from Hungarian	<p> ‘Here is an iron [<i>needle</i>] against demon Üngür; Needle should be pricked into the demon; needle, needle, stab, poke, sew- [in]! [Who] unstitches [...]; Üngür shall not devour me; oust him, blast him, my God!’ </p>

Treasure of Nagyszentmiklós is a collection of 23 gold plates found in Nagyszentmiklós, Hungary (currently Sânnicolau Mare, Romania) in the year 1799.²¹ One of them is seen in *Fig. 2-6/a*. Here before the final inscription a draft was first scored, which is clearly visible.²² There are two draft and two final inscriptions on the bowl as *Fig. 2-6/b* presents it. Its transcription was improved by linguist E. Zelliger.²³



Figure 2-6/a: The photo of the bowl No. 8.²⁴



Figure 2-6/b: The inscription of the bowl No. 8.²⁵

Written in Carpathian Basin Rovas Font	+ DN + ɣɣ>>9 + ɣ>9 + >091 +
IPA phonetic transcription ²⁶	βoɟ ^a d w ^z ɔdβ ^a ɲ w ^z a ^d tni ^e ɣ ^e i
Translation from Hungarian	‘Woshad decoction for him until flushed.’

This beverage nowadays is also known by mainly the Turkic people as *boza*.²⁷ The original Turkic name of this drink was surely /boɟa/ (it was found in Khazarian Rovas inscription, see Novocherkassk relic²⁸) and /-d/ was the regular diminutive suffix existing in the Ancient Hungarian linguistic age. The punctuation symbol WORD SEPARATOR

²⁰ Vékony, 1987a
²¹ Németh, 1932a; Németh, 1932b
²² Bóna, 1984; Bálint, 2002; Bálint, 2004
²³ Zelliger, 2010
²⁴ Libisch, 2004
²⁵ Libisch, 2004
²⁶ Vékony, 1997
²⁷ <http://mek.niif.hu/02700/02790/html/92.html>
²⁸ Hosszú, 2011c

CROSS (†) may refer to Christianity. As A. Róna-Tas showed the Hungarians had contacts with Christianity from the 5th century.²⁹

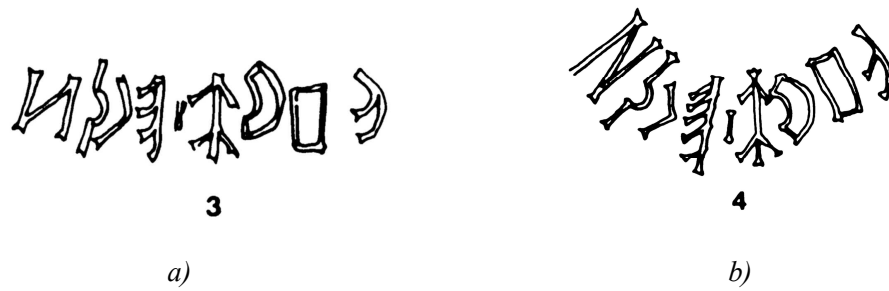


Figure 2-7/a,b: The identical inscriptions of the No. 9. bowl (a) and the No. 22 cup (b).³⁰

Written in Carpathian Basin Rovas Font	N̂>>̂ †D̂D̂>	
IPA phonetic transcription	left: yr ^β tχ	right: ^u z ^β doχ
Translation from Hungarian	left: (meaning debated)	right: ‘Warming beverage’



Figure 2-8: The photo of the No. 6 jug and its inscriptions on its bottom.³¹

The transcription of ʒ̂| ʒ̂| is /ŝîu-ŝŷr̂m/, its translation is ‘filtered water’ from Onogur. The transcription of ʒ̂| is /β̂ẑ/, its meaning is ‘water’ in Hungarian. Between the two inscriptions there is a symbol that can be presented with ^lWORD SEPARATOR VERTICAL BAR. The transcription of †D̂D̂> is /v̂^od̂^oĵŝ/ ‘with water’ in Slavic. The fourth expression (̂Ŷ>) is in As or Alan language, its transcription is /d̂an^(u)/ ‘water’.



Figure 2-9: The photo of the No. 15 flat-shallow ladle and its inscription.³²

²⁹ Róna-Tas, 1999

³⁰ Libisch, 2004

³¹ Libisch, 2004

³² Libisch, 2004

Written in Carpathian Basin Rovas Font	ᛃᛃᛃᛃᛃᛃ
IPA phonetic transcription	v ^a d ^u -e:tky
Translation from Hungarian	'Fruit-dish' or 'forest-food'



Figure 2-10: The inscriptions of the No. 5 jug.³³

The transcription of $\mathfrak{B}\mathfrak{D}\mathfrak{8}$ is /xim's/, it is in Ogur, the transcription of $\mathfrak{N}\mathfrak{1}\mathfrak{0}$ is /ʃ^aβ^oγ/, it is in Hungarian. The meaning of the both is 'whey'.

The alphabet in Aethicus Ister's Cosmography was recorded in the mid 8th century.³⁴ 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.³⁵ It is a record of an early version of the Carpathian Basin Rovas.³⁶ The original manuscript is lost, calligraphic and partly distorted copies remain, only.

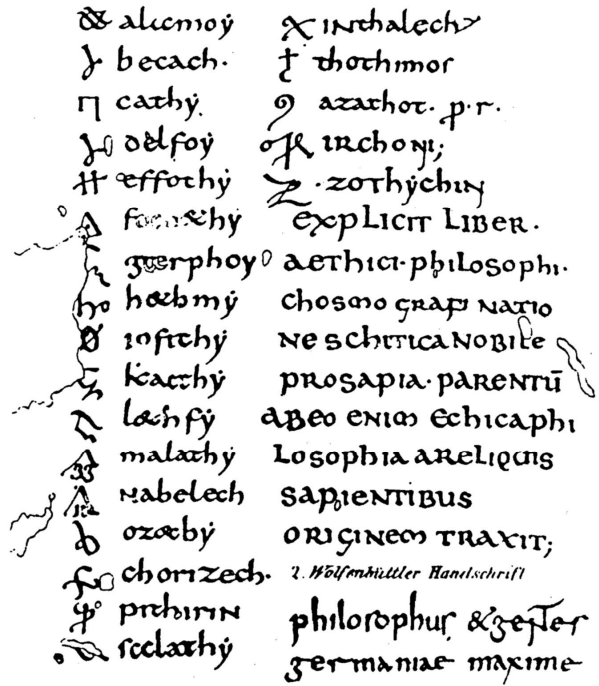
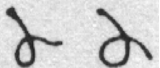
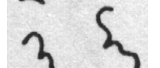

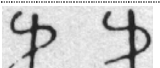
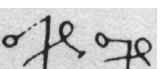
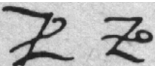


Figure 2-11: The Leipzig copy of Aethicus Ister's Alphabet, the original manuscript was made in mid 8th c.³⁷

The detailed analysis of Aethicus Ister's Alphabet can be found in Hosszú, 2011a. This proposal briefly shows only some letters of Aethicus. The cathy of Aethicus shows the form of the Carpathian Basin Rovas * \mathfrak{N} CS \mathfrak{tj} /.

Glyphs of the Aethicus Alphabet	Genealogy of the Aethicus characters	Cognate glyphs
	cathy	Khazarian Rovas \mathfrak{N} , \mathfrak{N} CS \mathfrak{tj} /s/ Szekely-Hungarian Rovas \mathfrak{N} , \mathfrak{N} CS \mathfrak{tj} /

³³ Libisch, 2004
³⁴ Wuttke, 1853
³⁵ Löwe, 1976
³⁶ Vékony, 2004
³⁷ Libisch, 2004

Glyphs of the Aethicus Alphabet	Genealogy of the Aethicus characters	Cognate glyphs
	<i>delfoy</i>	> D /d/
	<i>garphoy</i>	*λ FORKED G /g/, Khazarian Rovas λ FORKED G /g/
	<i>iofithy</i> : The second (Oxford) copy is misleading; it was affected by the shape of the Greek PHI φ, which was obviously known by the copier.	ϑ LY /j/λ/ was the ancestor of SHR ϑ, ϑ LY /λ/.
	<i>pithirin</i>	It is the calligraphic form of CBR ϑ P /p/. Also see its descendant SHR ϑ P /p/ and its sibling: KR ϑ P /p/.
	<i>irchoni</i> < <i>Onoghur</i> /iṛγun/ [written letter]. ³⁸ This glyph proves that the ϑ /i/i/ existed in the 8 th century in the Carpathian Basin Rovas.	Khazarian Rovas ϑ II /i/
	<i>zotichin</i> : It was shaped to the Latin Z by the copier.	Calligraphic form of Carpathian Basin Rovas ϑ Z /z/

From the 10th century a magical inscription is on a bone cover of a bow discovered in cemetery No. 45 in Békés-Povádzug (Hungary).³⁹ The language of the inscriptions is Ogur, their transcription is /^ux/ 'arrow', /^ox/ is also possible according to Turkologist I. Vásáry.⁴⁰



Figure 2-12: Two inscriptions of the bow from Békés-Povádzug.⁴¹

From the 11th century there is an inscription from village Torja (Szekelyland, Romania),⁴² see Fig. 2-13. This village had already existed in the 10th-11th century. According to J. Ráduly its transcription is /ka:s^on/, which is the name of the area Kászón in Szekelyland (Romania).⁴³

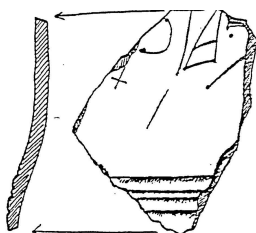


Figure 2-13: Pot fragment of Torja, 11th century.⁴⁴

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

³⁸ Vékony, 2004, p. 234-242

³⁹ Dienes, FolArch. XIV, 95 kk., Picture No. 36

⁴⁰ Vásáry, 2010-2011

⁴¹ Libisch, 2004

⁴² Székely, 1996

⁴³ Ráduly, 2008, p. 12

⁴⁴ Libisch, 2004

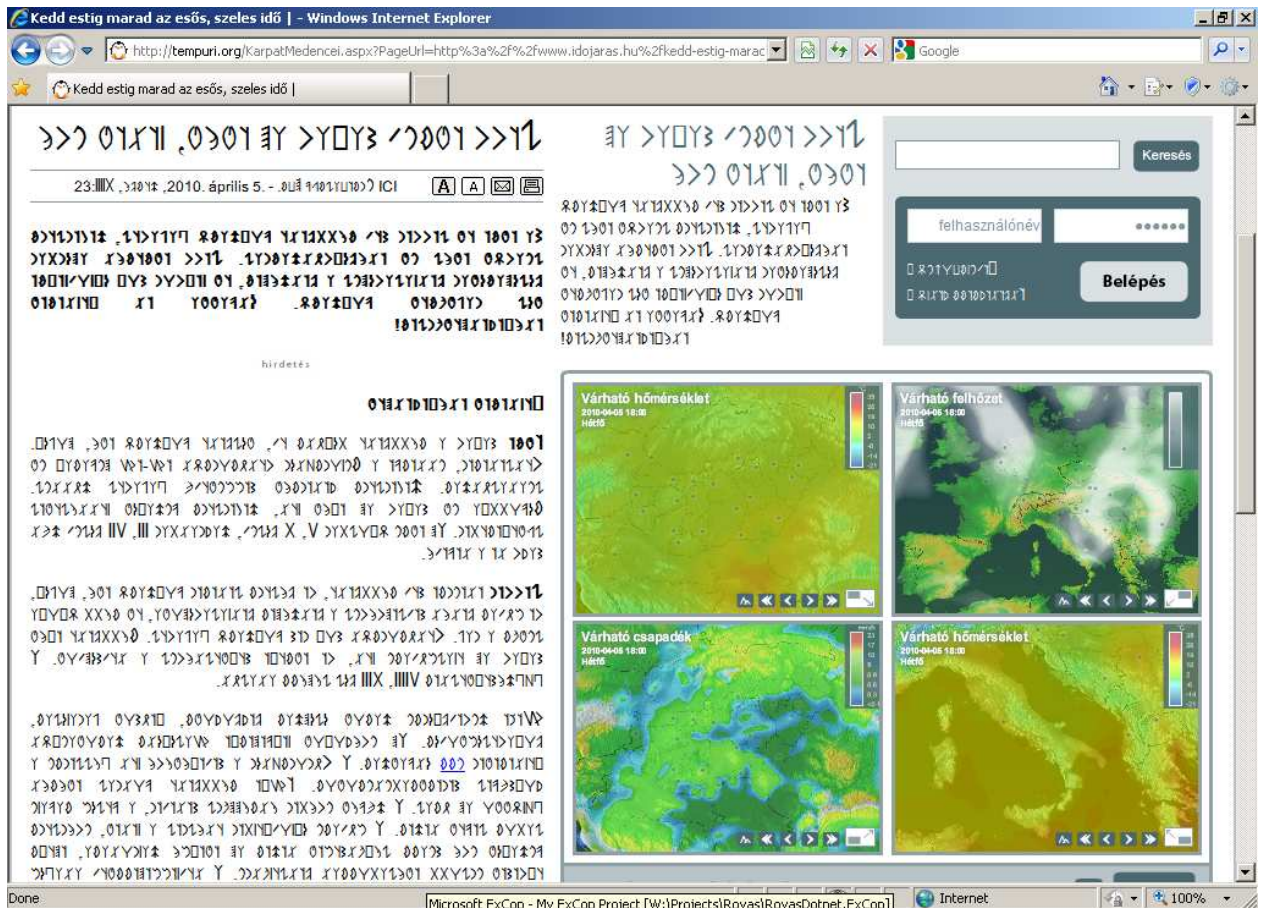


Figure 2-17: Product of Gy. Giczi's software that transforms a web page written with Latin script to Carpathian Basin Rovas.⁴⁸

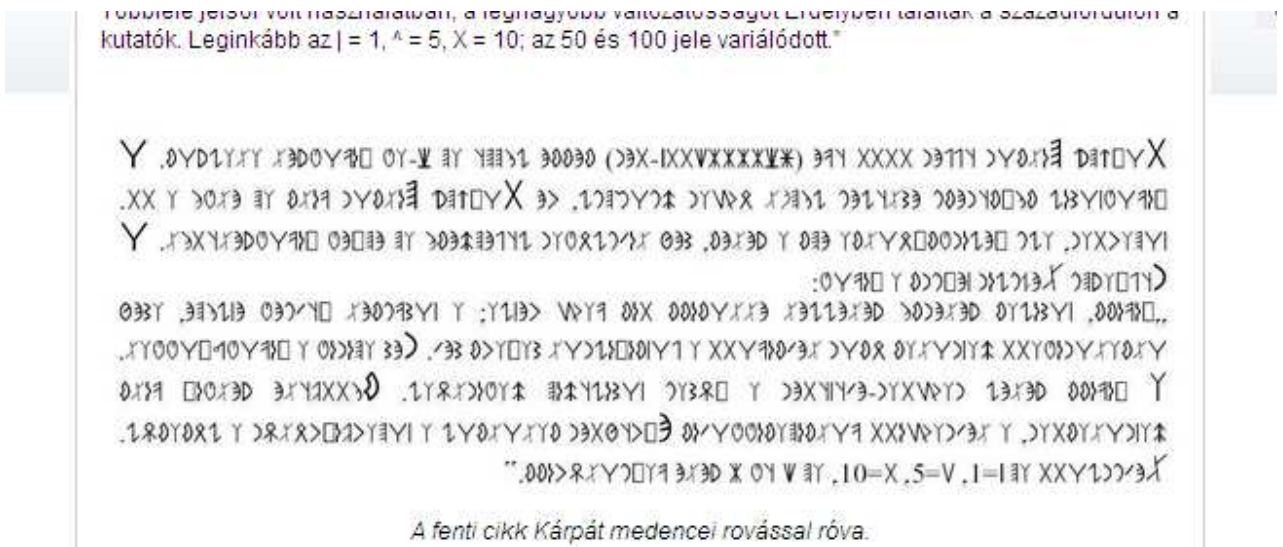


Figure 2-18: An article in the Rovas Info News Site.⁴⁹

⁴⁸ Giczi, web site from 2010

⁴⁹ Rovas Info, web site, retrieved in 2011 from <http://rovas.info/index.php/hu/hirek/54-kiemelt-hirek/588-a-rovas-500-as-jele>

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

1xx00 CARPATHIAN BASIN ROVAS Characters

1xx5F

UPPERCASE LETTERS

1xx00; Ǻ CARPATHIAN BASIN ROVAS CAPITAL LETTER A;Lu;0;R;;;;N;;;;;
1xx01; ǻ CARPATHIAN BASIN ROVAS CAPITAL LETTER AA;Lu;0;R;;;;N;;;;;
1xx02; Ǽ CARPATHIAN BASIN ROVAS CAPITAL LETTER D;Lu;0;R;;;;N;;;;;
1xx03; ǽ CARPATHIAN BASIN ROVAS CAPITAL LETTER DZ;Lu;0;R;;;;N;;;;;
1xx04; ǿ CARPATHIAN BASIN ROVAS CAPITAL LETTER DZS;Lu;0;R;;;;N;;;;;
1xx05; Ǿ CARPATHIAN BASIN ROVAS CAPITAL LETTER E;Lu;0;R;;;;N;;;;;
1xx06; Ǚ CARPATHIAN BASIN ROVAS CAPITAL LETTER EE;Lu;0;R;;;;N;;;;;
1xx07; ǚ CARPATHIAN BASIN ROVAS CAPITAL LETTER F;Lu;0;R;;;;N;;;;;
1xx08; ǜ CARPATHIAN BASIN ROVAS CAPITAL LETTER G;Lu;0;R;;;;N;;;;;
1xx09; ǝ CARPATHIAN BASIN ROVAS CAPITAL LETTER FORKED G;Lu;0;R;;;;N;;;;;
1xx0A; Ǟ CARPATHIAN BASIN ROVAS CAPITAL LETTER GY;Lu;0;R;;;;N;;;;;
1xx0B; ǟ CARPATHIAN BASIN ROVAS CAPITAL LETTER H;Lu;0;R;;;;N;;;;;
1xx0C; Ǡ CARPATHIAN BASIN ROVAS CAPITAL LETTER CH;Lu;0;R;;;;N;;;;;
1xx0D; ǡ CARPATHIAN BASIN ROVAS CAPITAL LETTER I;Lu;0;R;;;;N;;;;;
1xx0E; Ǣ CARPATHIAN BASIN ROVAS CAPITAL LETTER ANGLED I;Lu;0;R;;;;N;;;;;
1xx0F; ǣ CARPATHIAN BASIN ROVAS CAPITAL LETTER II;Lu;0;R;;;;N;;;;;
1xx10; Ǥ CARPATHIAN BASIN ROVAS CAPITAL LETTER J;Lu;0;R;;;;N;;;;;
1xx11; ǥ CARPATHIAN BASIN ROVAS CAPITAL LETTER KUE;Lu;0;R;;;;N;;;;;
1xx12; Ǧ CARPATHIAN BASIN ROVAS CAPITAL LETTER L;Lu;0;R;;;;N;;;;;
1xx13; ǧ CARPATHIAN BASIN ROVAS CAPITAL LETTER SIMPLE L;Lu;0;R;;;;N;;;;;
1xx14; Ǩ CARPATHIAN BASIN ROVAS CAPITAL LETTER M;Lu;0;R;;;;N;;;;;
1xx15; ǩ CARPATHIAN BASIN ROVAS CAPITAL LETTER NG;Lu;0;R;;;;N;;;;;
1xx16; Ǫ CARPATHIAN BASIN ROVAS CAPITAL LETTER NY;Lu;0;R;;;;N;;;;;
1xx17; ǫ CARPATHIAN BASIN ROVAS CAPITAL LETTER O;Lu;0;R;;;;N;;;;;
1xx18; Ǭ CARPATHIAN BASIN ROVAS CAPITAL LETTER OO;Lu;0;R;;;;N;;;;;
1xx19; ǭ CARPATHIAN BASIN ROVAS CAPITAL LETTER OE;Lu;0;R;;;;N;;;;;
1xx1A; Ǯ CARPATHIAN BASIN ROVAS CAPITAL LETTER OEE;Lu;0;R;;;;N;;;;;
1xx1B; ǯ CARPATHIAN BASIN ROVAS CAPITAL LETTER SIMPLE P;Lu;0;R;;;;N;;;;;
1xx1C; ǰ CARPATHIAN BASIN ROVAS CAPITAL LETTER Q;Lu;0;R;;;;N;;;;;
1xx1D; Ǳ CARPATHIAN BASIN ROVAS CAPITAL LETTER CLOSE R;Lu;0;R;;;;N;;;;;
1xx1E; ǲ CARPATHIAN BASIN ROVAS CAPITAL LETTER S;Lu;0;R;;;;N;;;;;
1xx1F; ǳ CARPATHIAN BASIN ROVAS CAPITAL LETTER CLOSE T;Lu;0;R;;;;N;;;;;
1xx20; Ǵ CARPATHIAN BASIN ROVAS CAPITAL LETTER TY;Lu;0;R;;;;N;;;;;
1xx21; ǵ CARPATHIAN BASIN ROVAS CAPITAL LETTER U;Lu;0;R;;;;N;;;;;
1xx22; Ƕ CARPATHIAN BASIN ROVAS CAPITAL LETTER UE;Lu;0;R;;;;N;;;;;
1xx23; Ƿ CARPATHIAN BASIN ROVAS CAPITAL LETTER UEE;Lu;0;R;;;;N;;;;;
1xx24; Ǹ CARPATHIAN BASIN ROVAS CAPITAL LETTER W;Lu;0;R;;;;N;;;;;
1xx25; ǹ CARPATHIAN BASIN ROVAS CAPITAL LETTER X;Lu;0;R;;;;N;;;;;
1xx26; Ǻ CARPATHIAN BASIN ROVAS CAPITAL LETTER Y;Lu;0;R;;;;N;;;;;
1xx27; ǻ 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; Ƴ CARPATHIAN BASIN ROVAS SMALL LETTER A;Ll;0;R;;;;N;;;;;
1xx31; Ʒ CARPATHIAN BASIN ROVAS SMALL LETTER AA;Ll;0;R;;;;N;;;;;
1xx32; > CARPATHIAN BASIN ROVAS SMALL LETTER D;Ll;0;R;;;;N;;;;;
1xx33; Ꞥ CARPATHIAN BASIN ROVAS SMALL LETTER DZ;Ll;0;R;;;;N;;;;;
1xx34; ꞥ CARPATHIAN BASIN ROVAS SMALL LETTER DZS;Ll;0;R;;;;N;;;;;
1xx35; Ꞧ CARPATHIAN BASIN ROVAS SMALL LETTER E;Ll;0;R;;;;N;;;;;
1xx36; Ʒ CARPATHIAN BASIN ROVAS SMALL LETTER EE;Ll;0;R;;;;N;;;;;
1xx37; Ꞩ CARPATHIAN BASIN ROVAS SMALL LETTER F;Ll;0;R;;;;N;;;;;
1xx38; Ʒ CARPATHIAN BASIN ROVAS SMALL LETTER G;Ll;0;R;;;;N;;;;;
1xx39; ꞩ CARPATHIAN BASIN ROVAS SMALL LETTER FORKED G;Ll;0;R;;;;N;;;;;
1xx3A; ƷꞫ CARPATHIAN BASIN ROVAS SMALL LETTER GY;Ll;0;R;;;;N;;;;;
1xx3B; Ɡ CARPATHIAN BASIN ROVAS SMALL LETTER H;Ll;0;R;;;;N;;;;;
1xx3C; Ɬ CARPATHIAN BASIN ROVAS SMALL LETTER CH;Ll;0;R;;;;N;;;;;
1xx3D; Ɪ CARPATHIAN BASIN ROVAS SMALL LETTER I;Ll;0;R;;;;N;;;;;
1xx3E; ꞯ CARPATHIAN BASIN ROVAS SMALL LETTER ANGLED I;Ll;0;R;;;;N;;;;;
1xx3F; Ʞ CARPATHIAN BASIN ROVAS SMALL LETTER II;Ll;0;R;;;;N;;;;;
1xx40; Ʇ CARPATHIAN BASIN ROVAS SMALL LETTER J;Ll;0;R;;;;N;;;;;
1xx41; Ʝ CARPATHIAN BASIN ROVAS SMALL LETTER KUE;Ll;0;R;;;;N;;;;;
1xx42; Ꭓ CARPATHIAN BASIN ROVAS SMALL LETTER L;Ll;0;R;;;;N;;;;;
1xx43; Ꞵ CARPATHIAN BASIN ROVAS SMALL LETTER SIMPLE L;Ll;0;R;;;;N;;;;;
1xx44; ꞵ CARPATHIAN BASIN ROVAS SMALL LETTER M;Ll;0;R;;;;N;;;;;
1xx45; Ꞷ CARPATHIAN BASIN ROVAS SMALL LETTER NG;Ll;0;R;;;;N;;;;;
1xx46; ꞷ CARPATHIAN BASIN ROVAS SMALL LETTER NY;Ll;0;R;;;;N;;;;;
1xx47; Ꞹ CARPATHIAN BASIN ROVAS SMALL LETTER O;Ll;0;R;;;;N;;;;;
1xx48; ꞹ CARPATHIAN BASIN ROVAS SMALL LETTER OO;Ll;0;R;;;;N;;;;;
1xx49; Ꞻ CARPATHIAN BASIN ROVAS SMALL LETTER OE;Ll;0;R;;;;N;;;;;
1xx4A; ꞻ CARPATHIAN BASIN ROVAS SMALL LETTER OEE;Ll;0;R;;;;N;;;;;
1xx4B; Ꞽ CARPATHIAN BASIN ROVAS SMALL LETTER SIMPLE P;Ll;0;R;;;;N;;;;;
1xx4C; ꞽ CARPATHIAN BASIN ROVAS SMALL LETTER Q;Ll;0;R;;;;N;;;;;
1xx4D; Ꞿ CARPATHIAN BASIN ROVAS SMALL LETTER CLOSE R;Ll;0;R;;;;N;;;;;
1xx4E; ꞿ CARPATHIAN BASIN ROVAS SMALL LETTER S;Ll;0;R;;;;N;;;;;
1xx4F; Ꟁ CARPATHIAN BASIN ROVAS SMALL LETTER CLOSE T;Ll;0;R;;;;N;;;;;
1xx50; ꟁ CARPATHIAN BASIN ROVAS SMALL LETTER TY;Ll;0;R;;;;N;;;;;
1xx51; Ꟃ CARPATHIAN BASIN ROVAS SMALL LETTER U;Ll;0;R;;;;N;;;;;
1xx52; ꟃ CARPATHIAN BASIN ROVAS SMALL LETTER UE;Ll;0;R;;;;N;;;;;
1xx53; Ꞔ CARPATHIAN BASIN ROVAS SMALL LETTER UEE;Ll;0;R;;;;N;;;;;
1xx54; Ʂ CARPATHIAN BASIN ROVAS SMALL LETTER W;Ll;0;R;;;;N;;;;;
1xx55; Ᶎ CARPATHIAN BASIN ROVAS SMALL LETTER X;Ll;0;R;;;;N;;;;;
1xx56; Ꟈ CARPATHIAN BASIN ROVAS SMALL LETTER Y;Ll;0;R;;;;N;;;;;
1xx57; ꟈ 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	!
	27xy

Carpathian Basin Rovas Punctuation

27xx + LARGE PLUS SIGN

- Word separator in some historic Carpathian Basin Rovas inscriptions
- Usually uses full cap height

→ 002B Plus Sign

27xy ! SHORT MIDDLE VERTICAL BAR

- Word separator in some historic Carpathian Basin 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 was isolated from the Khazarian Rovas. It was used up to the 11th c., when it became extinct. In 2009 it was revitalized when it was slightly extended in order to fit modern Hungarian language. In this procedure the same techniques were applied that were used during the history of the native development of its cognate 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 ↑ (C) /ts/ and Ÿ ZS /z/ from the Szekely-Hungarian Rovas. Finally some letters were created as ligatures for the /ts/, /dz/, /dʒ/, /ks/, /ij/, /z/. Their forms are frozen and turned into new letters similarly to the cases of the W<V+V and &<E+T. These characters are handled individually 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
Ÿ	A	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 2-8</i>
Ÿ	AA	- Needle-case from Jánoshida, <i>Fig. 2-4</i>
X	B	- Needle-case from Jánoshida, <i>Fig. 2-4</i>
↑	C	- Web page transformed by György Giczi, <i>Fig. 2-17</i>
Ÿ	CS	- Alphabet of Aethicus Ister, <i>Fig. 2-11, simplified glyph</i>
>	D	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ÿ	DZ	- Pangram of Schwetter, <i>Fig. 2-16</i>
Ÿ	DZS	- Pangram of Schwetter, <i>Fig. 2-16</i>
Ÿ	E	- Alphabet of Aethicus Ister, <i>Fig. 2-11, calligraphic</i>
Ÿ	EE	- Flat-shallow ladle No. 15, Nagyszentmiklós, <i>Fig. 2-9</i>

Glyph	Name	Examples of the glyph in relics and publications
Ɔ	F	- Needle Case of Szarvas, <i>Fig. 2-5</i>
Ɔ	G	- Needle Case of Szarvas, <i>Fig. 2-5</i>
Ɔ	FORKED G	- Alphabet of Aethicus Ister, <i>Fig. 2-11</i>
Ɔ	GY	- Needle Case of Szarvas, <i>Fig. 2-5</i>
Ɔ	H	- Cup No. 22 from Nagyszentmiklós, <i>Fig. 2-7/a & 2-7/b</i>
Ɔ	CH	- Bone cover of a bow from Békés-Povádzug, <i>Fig. 2-12</i>
Ɔ	I	- Jug No. 5 from Nagyszentmiklós, <i>Fig. 2-10</i>
Ɔ	ANGLED I	- Needle case of Szarvas, <i>Fig. 2-5, mirrored glyph</i>
Ɔ	II	- Alphabet of Aethicus Ister, <i>Fig. 2-11</i>
Ɔ	J	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 2-8</i>
Ɔ	OPEN K	- Needle case of Szarvas, <i>Fig. 2-5</i>
Ɔ	TRIANGULAR K	- Pot fragment of Torja, 11 th c., <i>Fig. 2-13, in a ligature</i>
Ɔ	KUE	- Flat-shallow ladle No. 15, Nagyszentmiklós, <i>Fig. 2-9</i>
Ɔ	L	- Needle case of Szarvas, <i>Fig. 2-5</i>
Ɔ	SIMPLE L	- Bow from Környe, <i>Fig. 2-3</i>
Ɔ	LY	- Alphabet of Aethicus Ister, <i>Fig. 2-11</i>
Ɔ	M	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 2-8</i>
Ɔ	N	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ɔ	NG	- Needle case from Jánoshida, <i>Fig. 2-4</i>
Ɔ	NY	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 6.13-1</i>
Ɔ	O	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ɔ	OO	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 2-8</i>
Ɔ	OE	- Cup No. 22 from Nagyszentmiklós, <i>Fig. 2-7/b</i>
Ɔ	OEE	- Bowl No. 9 from Nagyszentmiklós, <i>Fig. 2-7/a</i>
Ɔ	P	- Alphabet of Aethicus Ister, <i>Fig. 2-11</i>
Ɔ	SIMPLE P	- Drinking cup from Kiskőrös-Vágóhíd, <i>Fig. 2-2</i>
Ɔ	Q	- Jug No. 5 from Nagyszentmiklós, <i>Fig. 2-10</i>
Ɔ	CLOSE R	- Cup No. 22 from Nagyszentmiklós, <i>Fig. 2-7/a & b</i>
Ɔ	S	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ɔ	SZ	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 2-8</i>
Ɔ	CLOSE T	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ɔ	TY	- Silver vessel of Ozora-Tótipusza from 670-790, <i>Fig. 2-1</i> - Bow from Környe, <i>Fig. 2-3, glyph: Ɔ</i>
Ɔ	U	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 6.13-1</i>
Ɔ	GH UU	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ɔ	UE	- Needle Case of Szarvas, <i>Fig. 2-5</i>
Ɔ	UEE	- Needle-case from Jánoshida, <i>Fig. 2-4</i>
Ɔ	OPEN V	- Jug No. 6 from Nagyszentmiklós, <i>Fig. 6.13-1</i>
Ɔ	W	- Bow from Környe, <i>Fig. 2-3</i>
Ɔ	X	- An article in the Rovas Info News Site, <i>Fig. 2-18</i>

Glyph	Name	Examples of the glyph in relics and publications
Ɔ	Y	- An article in the Rovas Info News Site <i>Fig. 2-18</i>
Ǝ	Z	- Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
Ǝ	ZS	- Pangram of Schwetter, <i>Fig. 2-16</i>

The following characters are identical to the appropriate Szekely-Hungarian Rovas characters, see following *Table*. These are not proposed to encode individually. Instead of them the appropriate Rovas characters from the Szekely-Hungarian Rovas script, which is proposed in parallel, shall be used here.⁵⁰

Glyph	Name of the identical Szekely-Hungarian Rovas characters
Ɔ	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER B
↑	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER C
Ǝ	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER CS
↳	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN K
Δ	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER TRIANGULAR K
∅	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER LY
›	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER N
Ǝ	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER P
l	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER SZ
N	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER GH UU
Ǝ	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN V
Ǝ	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER ZS
Ɔ	SZEKELY-HUNGARIAN ROVAS SMALL LETTER B
↑	SZEKELY-HUNGARIAN ROVAS SMALL LETTER C
Ǝ	SZEKELY-HUNGARIAN ROVAS SMALL LETTER CS
↳	SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN K
Δ	SZEKELY-HUNGARIAN ROVAS SMALL LETTER TRIANGULAR K
∅	SZEKELY-HUNGARIAN ROVAS SMALL LETTER LY
›	SZEKELY-HUNGARIAN ROVAS SMALL LETTER N
Ǝ	SZEKELY-HUNGARIAN ROVAS SMALL LETTER P
l	SZEKELY-HUNGARIAN ROVAS SMALL LETTER SZ
N	SZEKELY-HUNGARIAN ROVAS SMALL LETTER GH UU
Ǝ	SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN V
Ǝ	SZEKELY-HUNGARIAN ROVAS SMALL LETTER ZS

4.3. Numbers

The Carpathian Basin Rovas script has two known numerals FIVE V and TEN X 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 it does not need individual code points.⁵¹

⁵⁰ Hosszú, 2011b

⁵¹ Hosszú, 2011b

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 SHORT MIDDLE VERTICAL BAR differs from the character-height sized HEBREW PUNCTUATION PASEQ' (U+05C0).

Glyph	Name of the Carpathian Basin Rovas character	Examples of the glyph in the relics
+	LARGE PLUS SIGN	Bowl No. 8 from Nagyszentmiklós, <i>Fig. 2-6/a & b</i>
	SHORT MIDDLE VERTICAL BAR	<ul style="list-style-type: none"> Needle Case of Szarvas, <i>Fig. 2-5</i> Bowl No. 9 from Nagyszentmiklós, <i>Fig. 2-7/a</i> Cup No. 22 from Nagyszentmiklós, <i>Fig. 2-7/b</i> Jug No. 6 from Nagyszentmiklós, <i>Fig. 2-8</i>

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 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
	$\overset{u}{x}\overset{u}{x}$	CHCH	$\text{CH} / \text{x} / + \text{CH} / \text{x} /$
	in	ING	$\text{I} / \text{i} / + \text{NG} / \text{ŋ} /$
	ix	IGH	$\text{I} / \text{i} / + \text{NGH} / \text{uu} / \text{ɣ} /$
	ka:	KAA	$\text{TRIANGULAR K} / \text{k} / + \text{EE} / \text{a} /$
	ny	NGUE	$\text{NG} / \text{ŋ} / + \text{UE} / \text{y} /$
	rg	RG	$\text{CLOSE R} / \text{r} / + \text{G} / \text{g} /$
	ta/ε	TA	$\text{TY} / \text{t} / + \text{A} / \text{a} /$
	ti	TI	$\text{TY} / \text{t} / + \text{ANGLED I} / \text{i} /$
	$\beta^{\circ} r \gamma$	WORGH	$\text{BV} / \text{β} / + \text{CLOSE R} / \text{r} / + \text{NGH} / \text{uu} / \text{ɣ} /$

5. Ordering

In ordering the Common Template Table defined in the International Standard ISO/IEC 14651 is adapted.⁵² 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:

Y A < Y AA < X B < ↑ C < Ū CS < > D < Ꞥ DZ < Ɔ DZS < Ɔ E < Y EE < ʀ F < / G < ʂ FORKED G < W Ɔ GY < ʀ H < ʀ CH < ʁ I < 1 ANGLED I < ʀ II < D J < ʀ OPEN K < ʀ TRIANGULAR K < ʂ KUE < ʂ L < ʁ SIMPLE L < 0 LY < ʂ M < ʁ N < ʁ NG < ʁ NY < ʁ O < ʀ OO < ʁ OE < ʁ OEE < ʀ P < 1 SIMPLE P < ʂ Q < ʀ CLOSE R < 0 S < ʀ SZ < ʀ CLOSE T < ʂ TY < ʂ U < NGH UU < ʁ UE < ʁ UEE < ʀ OPEN V < ʁ W < ʀ X < ʀ Y < ʀ Z < Y ZS

Level 2

⁵² LaBonté, 2007a & 2007b

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.⁵³

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.

6. Acknowledgement

I thank **my Mother** for her patience, the exactness learned from her and her much useful advice during the elaboration of the entire work when I discussed many details with her. I also remember **my Father** who introduced me to mathematics, stenography and history of Hungary.

7. Bibliography

- Bálint, Csanád (2002): A nagyszentmiklósi kincs [Treasure of Nagyszentmiklós]. In: *História*, Vol. 2002. No. 3, Budapest: História Foundation.
- Bálint, Csanád (2004): *A nagyszentmiklósi kincs* [Golden Treasure of Nagyszentmiklós], Budapest: MTA Institute, 2004.
- Bóna, István (1984): A XIX. század nagy avar leletei. Die grossen Awarenfunde des 19. Jahrhunderts. Szolnok Megyei Múzeumi Évkönyv 1982-1983 (1984) pp. 81-160.
- Erdélyi, István (1958a): A jánoshidai avar kori temető [The Avar-aged cemetery of Jánoshida]. In: *Régészeti Füzetek* [Archaeological Notebooks] II/1. Budapest 1958.
- Erdélyi, István (1958b): Новая руническая надпись из Венгрии [New Rovas inscriptions from Hungary]. In: *Эпиграфика Востока* [Epigraphyka Vostoka], pp. 55-56
- Erdélyi, István (1961): Új magyarországi rovásfelirat [New Rovas inscription of Hungary]. In: *Archeológiai Értesítő* [Acheological Communications], pp. 279-280
- Erdélyi, István (1969): Türk rovásírástól felirat Környéről [Turkic Rovas inscription from Környe]. In: *Antik Tanulmányok – Studia Antiqua*, No. 16, pp. 209-210.
- Erdélyi, István (1982): Az avarság és kelet a régészeti források tükrében [The Avars and the East in the mirror of the archeological sources]. Published by Akadémiai Kiadó [Publisher of the Hungarian Academy of Sciences]. Budapest, 1982. ISBN 963 05 2705 7.
- Erdélyi, István; Ráduly, János (2010): *A Kárpát-medence rovásfeliratos emlékei a Kr. u. 17. századig* [The relics of the Carpathian Basin with Rovas inscriptions up to the 17th century]. Ed. István Erdélyi. Budapest: Masszi Kiadó.
- Forrai, Márton, Jun. (2009): The Rovas scripting home page, 2009, <http://iffforraimarton.fw.hu/>
- Giczi, György (web site from 2010): *Rovas Transcribe Site*. Retrieved in 2010 from <http://mutasdrovassal.hu/KarpatMedencei.aspx>
- Hosszú, Gábor (2011a): The Heritage of Scribes. The Rovas Scripts' Relations to Eurasian Writing Systems. First edition. Budapest, ISBN 978-963-88437-4-6, *under publication*.
- Hosszú, Gábor (2011b): Revised proposal for encoding the Szekely-Hungarian Rovas in the SMP of the UCS. Action: For consideration by JTC1/SC2/WG2 and UTC, 2011.
- Hosszú, Gábor (2011c): Proposal for encoding the Khazarian Rovas script in the SMP of the UCS, Action: For consideration by JTC1/SC2/WG2 and UTC, 2011.
- LaBonté, Alain (2007a): ISO/IEC 14651:2007(E): Information technology -- International string ordering and comparison -- Method for comparing character strings and description of the common template tailorable ordering
- LaBonté, Alain (2007b): ISO/IEC 14651:2007(F): Technologies de l'information -- Classement international et comparaison de chaînes de caractères -- Méthode de comparaison de chaînes de caractères et description du modèle commun et adaptable d'ordre de classement

⁵³ LaBonté, 2010

- LaBonté, Alain (2010): *Personal communications*.
- Libisch, Győző (2004): Rovás Kincsek. A Régi Magyar Írás Emléktára. [*Rovas Treasures. The Memorial Archive of the Old Hungarian Writing*]. Publisher: Két Kerék Alapítvány (Two Wheels Foundation), Budapest, 2004, First Edition. ISBN 693-217-169-1.
- Németh, Gyula (1932a): A nagyszentmiklósi kincs feliratai [*The inscriptions of the Nagyszentmiklós treasure*], In: Magyar Nyelv [Hungarian Language] Vol. XXVIII, N. 3-6, 1932, pp. 65-85 and 129-139.
- Németh, J. (1932b): Die Inschriften des Schatzes von Nagy-Szent-Miklós von J. Németh. Bibliotheca Orientalis Hungarica II., Mit Unterstützung der Ungarischen Akademie der Wissenschaften, Budapest: Körösi Csoma-Gesellschaft, Leipzig: Otto Harrassowitz, 1932.
- Róna-Tas, András (1995): A magyarság korai története (Tanulmányok) [*The early history of the Hungarians (Studies)*]. Edited: Éva Kincses Nagy. In series: Magyar Őstörténeti Könyvtár [*Library of the Hungarian Ancient History*] 9. Published of the Research Group of the Hungarian Ancient History at the József Attila University of Sciences. Szeged, 1995. ISBN 963 482 071 9.
- Róna-Tas, András (1996): A honfoglaló magyar nép [*The conquering Hungarian nation*]. Bevezetés a korai Magyar történelem ismeretébe [*Introduction to the knowledge of the early Hungarian history*]. Published by Balassi Kiadó, Budapest, ISBN 963 506 106 4.
- Róna-Tas, András (1999): Magyarság és kereszténység a honfoglalás előtt (*Hungarians and Christianity before of the Settlement of Hungary*), in journal Vigilia, Vol. 64, November 1999, Budapest. Chief Editor is Dr. László Lukács.
- Rovas Info (web site from 2010) *Rovas Info News Site*. Retrieved in 2011 from <http://rovas.info>
- Sándor, Klára (1992): Előszó [Foreword], in: Klára Sándor (ed.), Rovásírás a Kárpát-medencében [*Rovas scripting in the Carpathian Basin*]. In series: Magyar Őstörténeti Könyvtár [*Library of the Hungarian Ancient History*] 4. Publisher: Szegedi Tudományegyetem, Altajisztikai Tanszék, Szeged, pp. 9-14. ISBN 963 481 885 4
- Székely, Zoltán (1996): Árpád-kori rovasjelek a Székelyföldről [Arpadian age Rovas signs from Szekelyland]. In: *Acta* Vol. I., Székely Nemzeti Múzeum [Szekely National Museum], Sepsiszentgyörgy, 1996, pp. 171-174.
- Vásáry, István (2010-2011): *Personal communication*.
- Vékony, Gábor (1986): Die Glagolica und osteuropäische Schriften in der späten Völkerwanderungszeit. (Hungaro-Bulgarica I.)
- Vékony, Gábor (1987a): Későnépvándorláskori rovasfeliratok a Kárpát-medencében [Rovas inscriptions from the Late Migration Period in the Carpathian Basin]. Szombathely-Budapest.
- Vékony, Gábor (1987b): Spätvölkerwanderungszeitliche Kerbinschriften im Karpatenbecken. *Acta Archeologica Hungarica* Vol. 39, pp. 211-256.
- Vékony, Gábor (1997): Szkíthiától Hungáriáig: válogatott tanulmányok. [From Scythia to Hungary: selected Studies] Szombathely Életünk Szerkesztőség: Magyar Írók Szöcetsége. Nyugat-magyarországi Csoport.
- Vékony, Gábor (2002): Magyar őstörténet – Magyar honfoglalás [*Hungarian Ancient History – Hungarian Settlement*]. Publisher: Nap Kiadó, Budapest, 2002, 2005. ISBN: 963 9402 16 8
- Vékony, Gábor (2004): The Relics, Relations and History of the Szekely Script. Publisher: Nap Kiadó, Budapest, 2004. ISBN 963 9402 45 1
- Zelliger, Erzsébet (2010): *Personal communications*.

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 10646⁵⁴**

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:	January 21, 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 <input checked="" type="checkbox"/>	B.1-Specialized (small collection) <input type="checkbox"/>	B.2-Specialized (large collection) <input type="checkbox"/>
C-Major extinct <input type="checkbox"/>	D-Attested extinct <input type="checkbox"/>	E-Minor extinct <input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic <input type="checkbox"/>	G-Obscure or questionable usage symbols <input type="checkbox"/>	
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	

⁵⁴ 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 Jn., Péter Füzi, György Giczi, Dániel Gribek, Levente Horváth, Dr. Gábor Hosszú, Angéla Ócsai, Tamás Rumi, László Sípos, Tamás Somfai, Levente Sütő, 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?	<i>No</i>
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?	<i>No</i>
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?	<i>No</i>
If YES, reference:	
12. Does the proposal contain characters with any special properties such as control function or similar semantics?	<i>No</i>
If YES, describe in detail (include attachment if necessary)	
13. Does the proposal contain any Ideographic compatibility character(s)?	<i>No</i>
If YES, is the equivalent corresponding unified ideographic character(s) identified?	
If YES, reference:	