

Universal Multiple-Octet Coded Character Set
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This proposal replaces N4006 (2011-01-21, revised: 2011-05-19). In light of recent results by world-renowned archeologists/linguists our knowledge of existing inscriptions has become more accurate and the genealogy of all related Rovas characters has been completed; hence it has become necessary to slightly revise the proposal. In addition, a new example for the present-day use of the Carpathian Basin Rovas is included and finally, the glyphs of the normalized Carpathian Basin Rovas letters were slightly enhanced to increase their readability.

It contains the proposal summary form. Please send any response to this proposal to Gábor Hosszú (email: hosszu@eet.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 Carpathian Basin Rovas is proven in the 7th-11th centuries. 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

¹ Vékony, 2002

According to the Hungarian paleography; the Carpathian Basin Rovas belongs to the family of the Rovas scripts², a close relative to the *Khazarian Rovas* (KR),³ and the ancestor of the *Szekely-Hungarian Rovas* (SHR).⁴ A common feature of the three Rovas scripts is that none of them was created artificially but they were gradually differentiated after the geographical isolation of their users. The Rovas scripts differ from Runic (its subgroups: early German, Scandinavian, etc.) and the Old Turkic scripts (its subgroups: Baykal-Lena area, Yenisei valley, etc.).⁵ The Carpathian Basin Rovas is one of the ancestors of the *Glagolitic* script.⁶ The simplified genealogy of the Rovas scripts is presented in *Fig. 1-1*, where the relations with less than four borrowed characters and the unknown intermediary scripts are not denoted. The *Early Steppean*⁷ script is the proposed common ancestor of the Rovas scripts and the Old Turkic script. The *Early Steppean* is supposed to be used in Middle-Asia from the 2nd century BC. The *Proto-Rovas*⁸ script is a reconstructed common ancestor of the Rovas scripts used North of the Caucasus and the Black Sea by the As and Alan nations from the 1st century AD. The time diagram in *Fig. 1-2* shows the dynamic interactions among the Rovas and cognate scripts. For additional information, see N4076 (2011-05-22)⁹ and N4080 (2011-05-25).¹⁰

² Hosszú, 2011a, pp. 15-75

³ Vékony, 1986

⁴ Sándor, 1992, p. 7-8

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, pp. 23-26, *Sec. 3.2*; RovasPedia: http://wiki.rovas.info/index.php/Early_Steppean_script

⁸ Hosszú, 2011a, pp. 27-28, *Sec. 3.3*; RovasPedia: <http://wiki.rovas.info/index.php/Proto-Rovas>

⁹ Hosszú, 2011e

¹⁰ Hosszú, 2011f

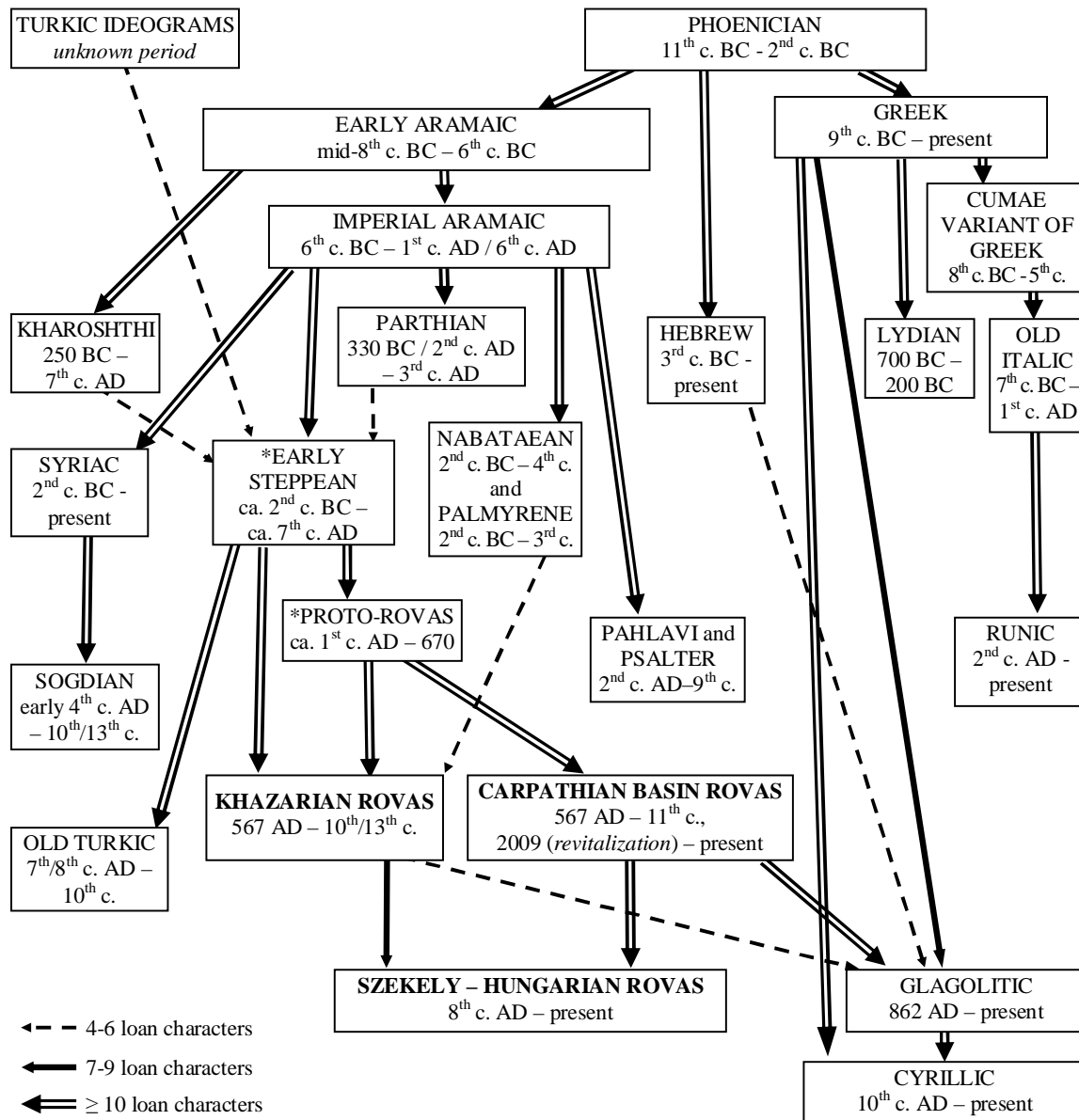


Figure 1-1: The genealogy of the Rovas scripts based on characters representing the same phonemes excluded the numerals. Relations with less than four borrowed characters and the unknown intermediary scripts are not denoted.¹¹

¹¹ Hosszú, 2011a, 2011d

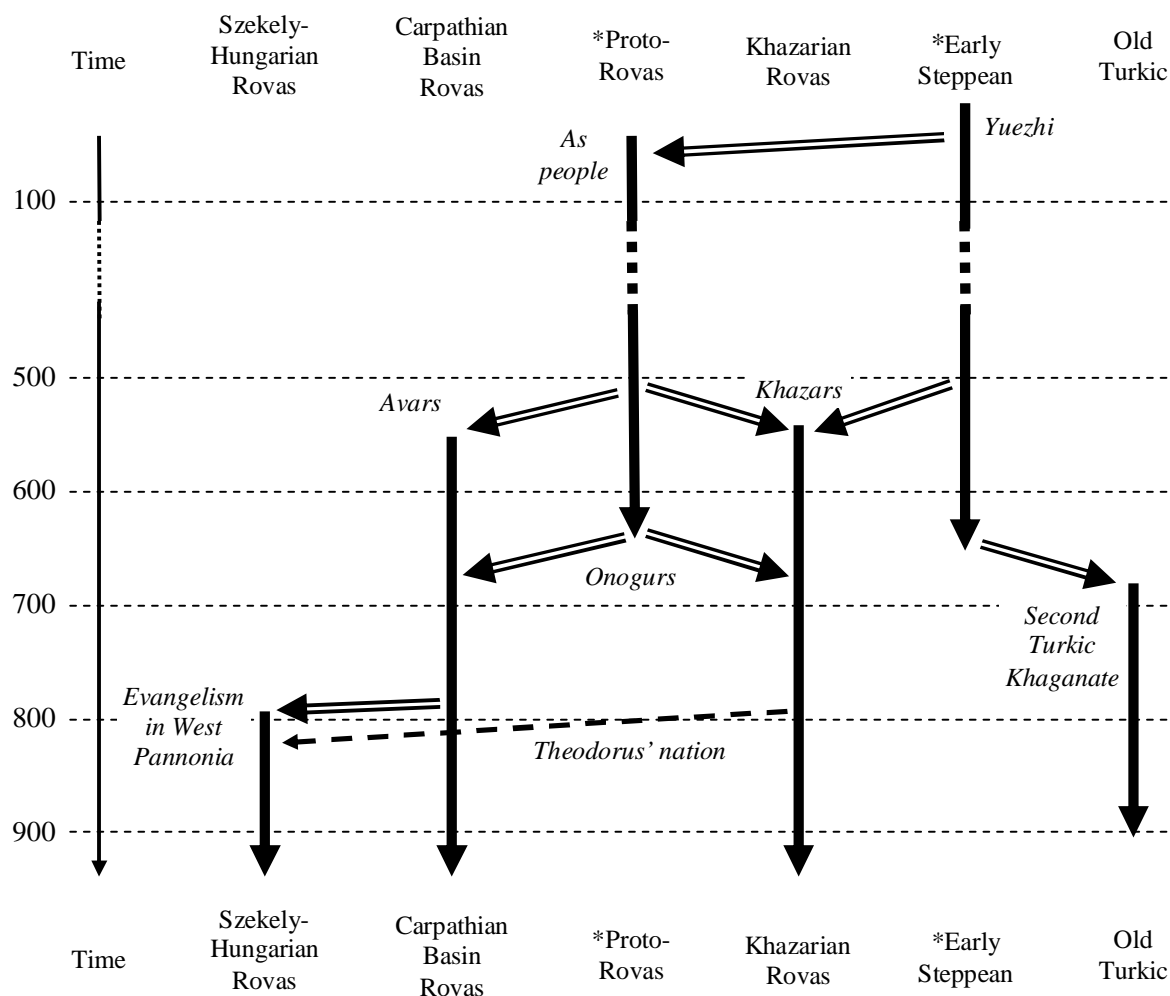


Figure 1-2: The time diagram of the interactions between the Rovas and cognate scripts¹² Theodorus' nation was presumably Onogur people from the Khazar Khaganate.¹³

There is a large and increasing user community of Szekely-Hungarian Rovas. Due to this, as the historical Carpathian Basin Rovas inscriptions are becoming better known among the Szekely-Hungarian Rovas users, real need for the revitalization of Carpathian Basin Rovas has arisen. However, for lack of the encoded standard of the revitalized Carpathian Basin Rovas, different versions of Carpathian Basin Rovas orthography came into existence that may cause difficulties. Consequently, the sooner the encoding process of the revitalized Carpathian Basin Rovas is completed the easier it will be to manage it.

The direction of Carpathian Basin Rovas 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.

¹² Hosszú, 2011a

¹³ Vékony, 1992, pp. 448-449

2. Some examples of the Carpathian Basin Rovas script

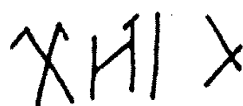


Figure 2-1: The inscription on the Silver Vessel of Ozora-Tótipusztá, last third of 7th c. AD.¹⁴

The transcription of **XHI X** is /10 sĭx^at/, its translation from Onogur is ‘10 [pieces] fit [inside]’.

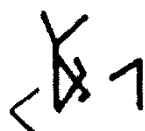


Figure 2-2: Inscription of the Chalice of Kiskőrös-Vágóhíd, last third of 7th c. AD.¹⁵

According to archaeologist-historian G. Vékony, the Rovas numeral is earlier than the textual inscription; probably it denoted the weight or the value of the cup. Its transcription is **V**, its meaning was ‘five’.¹⁶ The transcription of the **Y 1** inscription is probably /p^ut^a/ ‘louse’ or /b^uta/ ‘[camel] foal’ in Ogur. In the second case, it is supposed that the script kept an earlier form of the word /b^uta/ before voicing the first consonant.¹⁷ This 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, which later changed to voiced plosives: /p-/>/b-/ , /t-/>/d-/ , and /k-/>/g-/.¹⁸

The inscription on Fig. 2-3 was found on the remains of a bow from the end of the 7th century in Környe (Hungary).¹⁹ Its meaning is an early Hungarian magical text for ensuring the successful operation of the bow.²⁰ The transcription of Vékony was improved by linguist E. Zelliger.²¹

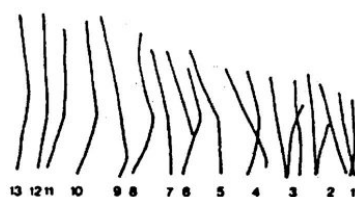


Figure 2-3: The Rovas inscription from Környe.²² In the inscription, the glyph **Y**, a simplified variant of the **X** ANGLED T /t/ was in use.

Written with normalized Carpathian Basin Rovas Font	Y Y Y Y Y Y Y X H I X
IPA phonetic transcription	/t ^l ɣ ^w ɣ ^a t l ^e β ^e l d n ^w l ^a l ^e l ⁿ /
Translation from Hungarian	‘Shoot [the] arrow with [this] bow against [him]!’

The Needle Case of Jánoshida was discovered by archaeologist I. Erdélyi in 1958, Fig. 2-4 presents its two sides.²³

¹⁴ Vékony, 2004; Erdélyi & Ráduly, 2010

¹⁵ Vékony, 2004

¹⁶ Vékony, 2004, p. 203

¹⁷ Vékony, 2004

¹⁸ Vásáry, 2010-2011

¹⁹ Erdélyi, 1969; Erdélyi, 1982, p. 183

²⁰ Vékony, 2004

²¹ Vékony, 1987a, p.89; Vékony, 2004a, pp. 203-207; Zelliger, 2010-11

²² Vékony, 1987a, p.89

²³ Erdélyi, 1958a, p. 39, Table XLIV/2; Erdélyi, 1958b, pp. 55-56; Erdélyi, 1961, pp. 279-280

Novocherkassk clay flask in Kypchak also contains this word written with Khazarian Rovas: 𐌶𐌵𐌹 /boʃ^a/.³⁶ The Preossetic (As-Alan) inscription of the Stanitsa Krivyanskoe clay flask contains the As-Alan word 𐌶𐌵𐌹 /voʃu/ written with Khazarian Rovas.³⁷ These inscriptions are presented in the Khazarian Rovas Proposal (11-10-12).³⁸ The > D /d/ in the term >𐌶𐌹 represented the regular diminutive suffix existing in the Ancient Hungarian linguistic period.³⁹

The punctuation symbol 𐌶 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.⁴⁰

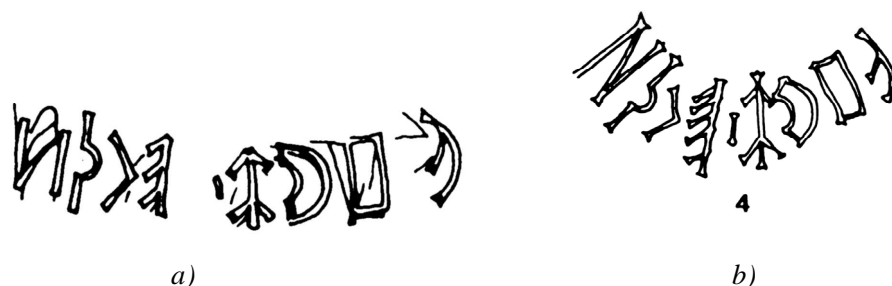


Figure 2-7/a,b: The identical inscriptions of the bowl No. 10 (a) and the cup No. 22 (b) from the 9th-10th centuries⁴¹

Written with normalized Carpathian Basin Rovas Font	𐌶𐌵𐌹	𐌶𐌹
IPA phonetic transcription	left: / ^u z ^h doɣ/	right: /yr ^a tɕ/
Translation from Hungarian	left: 'Warming beverage'	right: (its meaning is undetermined)



Figure 2-8: The photograph of the No. 6 jug and the inscriptions on its bottom from the 9th-10th centuries⁴²

The transcription of 𐌶𐌵𐌹 𐌶𐌹 is /sü-s^yri^m/, its translation is 'filtered water/cleaned water' from Onogur. The transcription of 𐌶𐌹 is /βⁱzⁱ/; its meaning is 'water' in Hungarian. Between the two inscriptions there is a symbol that can be presented with 𐌶 WORD SEPARATOR VERTICAL BAR. The transcription of 𐌶𐌹𐌶 is /v^od^oj^š/ 'with water' in Slavic. The fourth expression (𐌶𐌹) is in As or Alan language, its transcription is /dan^(u)/ 'water'.

³⁶ Vékony, 2004, p. 250

³⁷ Vékony, 2004, p. 257

³⁸ Hosszú, 2011c

³⁹ Sárosi, 2003, p. 142

⁴⁰ Róna-Tas, 1999

⁴¹ Hampel, 1884, pp. 1-166, 1-2; Németh, 1932a, p. 67

⁴² László & Rácz, 1977, Image 69; Németh, 1932a, p. 139



ᛒᛟᚢᚾ

Figure 2-9: The photograph of the No. 15 flat-shallow ladle and its inscription from the 9th-10th centuries⁴³

Written with normalized Carpathian Basin Rovas Font	ᛒᛟᚢᚾ
IPA phonetic transcription	/β ^a d ^u e:tky/
Translation from Hungarian	‘forest food’ (=fruit)

ᛒᚾ8 ᚾ70

Figure 2-10: The inscriptions of the No. 5 jug from the 9th-10th centuries⁴⁴

The transcription of ᛒᚾ8 is /xīmⁱs/ or /qīmⁱs/, it is in Onogur. The transcription of ᚾ70 is /ʃ^aβ^oʏ/; it is in Hungarian. The meaning of both inscriptions is ‘whey’.

The alphabet of Aethicus in the Hieronimus’s Cosmography was recorded in the mid-8th century.⁴⁵ Aethicus was the protagonist of the Cosmography, which describes Aethicus’ travels around the world. Fig.2-11 presents the Leipzig copy of the Cosmography’s manuscript. H. Löwe supposed that Hieronimus’ book was the work of Saint Virgil (746/7-784) Bishop of Salzburg and he recorded the Avars’ script.⁴⁶ The alphabet is a record of an early version of the Carpathian Basin Rovas.⁴⁷ The original manuscript was lost, only calligraphic and partly distorted copies remained.

⁴³ László & Rácz, 1977, *Image 80*; Hampel, 1884, *Fig. 11*

⁴⁴ Hampel, 1884, *Fig. 13 & 14*

⁴⁵ Wuttke, 1853

⁴⁶ Löwe, 1976

⁴⁷ Vékony, 2004

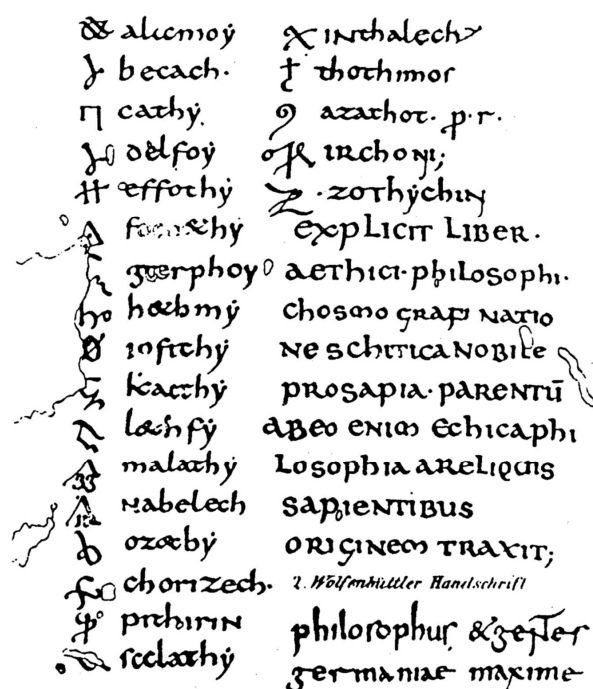

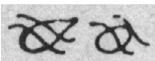



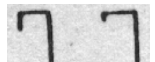


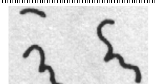


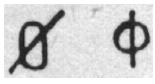



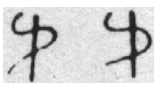





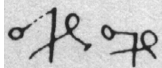
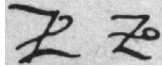
Figure 2-11: The Leipzig copy of Aethicus' Alphabet, the original manuscript was made in mid-8th century.⁴⁸

The detailed analysis of Aethicus' 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 * CS /tʃ/.

Glyphs of the Aethicus Alphabet	Genealogy of the Aethicus characters	Cognate glyphs
	<i>alamoy</i> The copies are shaped to the Carolingian minuscule <i>alamoy</i> . ⁴⁹	Khazarian Rovas  E /ε/, Szekely-Hungarian Rovas  E /ε/e:/, Glagolitic  JEST /ε/
	<i>cathy</i>	Khazarian Rovas  CS /tʃ/s/ Szekely-Hungarian Rovas  CS /tʃ/
	<i>garphoy</i>	*  FORKED G /g/, Khazarian Rovas  FORKED G /g/
	<i>iofithy</i> : The second (Oxford) copy is misleading; it was affected by the shape of the Greek PHI  , which was obviously known by the copier.	 LY /j/Λ/ was the ancestor of Szekely-Hungarian Rovas  LY /Λ/.
	<i>pithirin</i>	It is the calligraphic form of Carpathian Basin Rovas  P /p/. Also see its descendant Szekely-Hungarian Rovas  P /p/ and its sibling: Khazarian Rovas  P /p/.

⁴⁸ Libisch, 2004

⁴⁹ Carolingian minuscule, article in Encyclopædia Britannica; Vékony, 2004, p. 233

Glyphs of the Aethicus Alphabet	Genealogy of the Aethicus characters	Cognate glyphs
	<i>irchoni</i> < <i>Onogur</i> / <i>iryun</i> / [written letter]. ⁵⁰ This glyph proves that the <i>ŕ</i> /i/i/ existed in the 8 th century in the Carpathian Basin Rovas.	Khazarian Rovas <i>ŕ</i> CIRCLE ENDED I /i/
	<i>zotichin</i> : It was shaped to the Latin Z by the copier.	Calligraphic form of Carpathian Basin Rovas <i>Ź</i> Z /Z/ (glyph variant of the Carpathian Basin Rovas <i>Ź</i> 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).⁵¹ The language of the inscriptions is Onogur, their transcription is /^ux/ 'arrow', /^ox/ is also possible according to Turkologist I. Vásáry.⁵²



Figure 2-12: Two inscriptions of the bow from Békés-Povádzug.⁵³

From the 11th century, there is a pot fragment from Torja dated to the 11th century (Szekelyland, Romania),⁵⁴ see Fig. 2-13. According to J. Ráduly, its transcription is /*ka:s*^on/ that marks the name of the *Kászón* /*ka:son*/ region in Szekelyland (Romania).⁵⁵

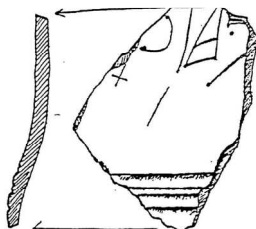


Figure 2-13: Pot fragment of Torja, 11th century.⁵⁶

In the followings, some examples of the revitalized Carpathian Basin Rovas are presented on Fig. 2-14, 15, 16, 17 & 18.

⁵⁰ Vékony, 2004, p. 234-242

⁵¹ Dienes, 1962, p. 96, Fig. 36

⁵² Vásáry, 2010-2011

⁵³ Libisch, 2004

⁵⁴ Székely, 1996

⁵⁵ Ráduly, 2008, p. 12

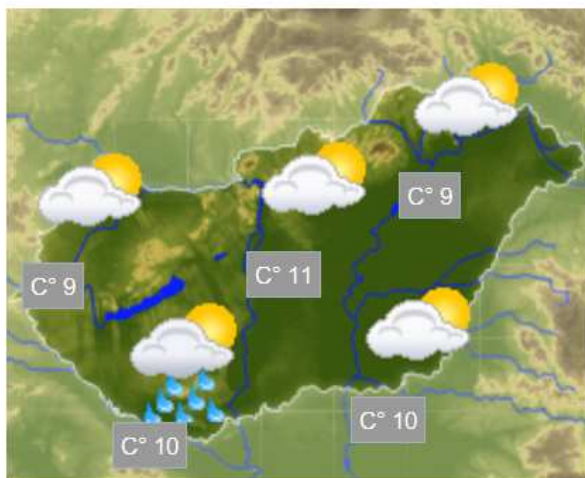
⁵⁶ Libisch, 2004

Figure 2-14: The poem titled “Wonderful Spring” (written by É. Fésüs) transcribed by M. Forrai jr., 2009.⁵⁷

Figure 2-15: The Christian song *Blessed Lady Our Mother*, transcribed in 2009 (modified in 2011).⁵⁸

Figure 2-16: The *pangram* of E. Schwetter⁵⁹ transcribed with Carpathian Basin Rovas by using casing, 2009 (modified in 2011). It contains each Carpathian Basin Rovas letter being necessary for the modern Hungarian orthography.

⁵⁹ Schwetter, Ernő: a pangram. In: Wikipedia, <http://hu.wikipedia.org>



:KSSS□ DYXZH SYID□YVYB •

[illegible]

Forrás: a szerző saját felmérése alapján, a legnagyobb változékonyságot Előzetes táblának a számszerűsített a kutatók. Leginkább az $\beta = 1$, $\lambda = 5$, $X = 10$; az 50 és 100 jele variálódott.*

[illegible]

A fenti cikk Kárpát medencei rovással róva.

⁶¹ Rovas Info, web site, retrieved in 2011 from <http://rovas.info/index.php/hu/hirek/54-kiemelt-hirek/588-a-rovas-500-as-jele>

1011.11.11. Y 033, N333011Y0 001>>3330 3Y03X>030 3X5X3 0>1030 0Y030030N.33 3Y
(3X1). 31 Y330.011V3Y 1Y0010-0Y3X1Y 001 33X-1277 .0X1Y 33333>1 130YX>V3X5Y03
Y V3333 .Y00-1 33310 1Y3Y1 .Y03Y3 10Y3>X 3X1YX 3X1 .31 .00Y011 0YV3Y3 3X1YX
.3X3 Y0Y0-1 10N 13YV3Y3



Figure 2-19: Part of an article in an on-line journal (Index.hu) transcribed to Carpathian Basin Rovas by G. Kliha' software.⁶² The original article contained images of welcome messages with Szekely-Hungarian Rovas at the district border in Budapest. Since the textual part of the article was transcribed to Carpathian Basin Rovas, inscriptions with both Carpathian Basin Rovas and Szekely-Hungarian Rovas are shown in the *Figure*.



Figure 2-20: Design of the **Carpathian Basin Rovas town sign** of Jánoshida (Hungary) from 2011. Its manufacturing and installation is in progress.⁶³ The reason the designers T. Rumi and L. Sípos used the Carpathian Basin Rovas instead of the more common Szekely-Hungarian Rovas script is that a Carpathian Basin Rovas relic was found in its area, see *Figure 2-4*.

⁶² Kliha, 2010-2011

⁶³ Rumi, 2008-2011

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

1xx00 CARPATHIAN BASIN ROVAS Characters









































1xx5F

UPPERCASE LETTERS

1xx00;	Y	CARPATHIAN BASIN ROVAS CAPITAL LETTER A;Lu;0;R;;;;N;;;;;
1xx01;	Y	CARPATHIAN BASIN ROVAS CAPITAL LETTER AA;Lu;0;R;;;;N;;;;;
1xx02;	>	CARPATHIAN BASIN ROVAS CAPITAL LETTER D;Lu;0;R;;;;N;;;;;
1xx03;	𐌠	CARPATHIAN BASIN ROVAS CAPITAL LETTER DZ;Lu;0;R;;;;N;;;;;
1xx04;	Y	CARPATHIAN BASIN ROVAS CAPITAL LETTER DZS;Lu;0;R;;;;N;;;;;
1xx05;	𐌡	CARPATHIAN BASIN ROVAS CAPITAL LETTER E;Lu;0;R;;;;N;;;;;
1xx06;	Y	CARPATHIAN BASIN ROVAS CAPITAL LETTER FORKED E;Lu;0;R;;;;N;;;;;
1xx07;	𐌢	CARPATHIAN BASIN ROVAS CAPITAL LETTER F;Lu;0;R;;;;N;;;;;
1xx08;	𐌣	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;	𐌭	CARPATHIAN BASIN ROVAS CAPITAL LETTER L;Lu;0;R;;;;N;;;;;
1xx13;	𐌮	CARPATHIAN BASIN ROVAS CAPITAL LETTER SIMPLE L;Lu;0;R;;;;N;;;;;
1xx14;	𐌯	CARPATHIAN BASIN ROVAS CAPITAL LETTER M;Lu;0;R;;;;N;;;;;
1xx15;	𐌰	CARPATHIAN BASIN ROVAS CAPITAL LETTER NG;Lu;0;R;;;;N;;;;;
1xx16;	𐌱	CARPATHIAN BASIN ROVAS CAPITAL LETTER NY;Lu;0;R;;;;N;;;;;
1xx17;	𐌲	CARPATHIAN BASIN ROVAS CAPITAL LETTER O;Lu;0;R;;;;N;;;;;
1xx18;	𐌳	CARPATHIAN BASIN ROVAS CAPITAL LETTER OO;Lu;0;R;;;;N;;;;;
1xx19;	𐌴	CARPATHIAN BASIN ROVAS CAPITAL LETTER OE;Lu;0;R;;;;N;;;;;
1xx1A;	𐌵	CARPATHIAN BASIN ROVAS CAPITAL LETTER SIMPLE P;Lu;0;R;;;;N;;;;;
1xx1B;	𐌶	CARPATHIAN BASIN ROVAS CAPITAL LETTER Q;Lu;0;R;;;;N;;;;;
1xx1C;	𐌷	CARPATHIAN BASIN ROVAS CAPITAL LETTER CLOSE R;Lu;0;R;;;;N;;;;;
1xx1D;	𐌸	CARPATHIAN BASIN ROVAS CAPITAL LETTER S;Lu;0;R;;;;N;;;;;
1xx1E;	𐌹	CARPATHIAN BASIN ROVAS CAPITAL LETTER CLOSE T;Lu;0;R;;;;N;;;;;
1xx1F;	𐌺	CARPATHIAN BASIN ROVAS CAPITAL LETTER ANGLED T;Lu;0;R;;;;N;;;;;
1xx20;	𐌻	CARPATHIAN BASIN ROVAS CAPITAL LETTER U;Lu;0;R;;;;N;;;;;
1xx21;	𐌼	CARPATHIAN BASIN ROVAS CAPITAL LETTER RAISED U;Lu;0;R;;;;N;;;;;
1xx22;	𐌽	CARPATHIAN BASIN ROVAS CAPITAL LETTER UE;Lu;0;R;;;;N;;;;;
1xx23;	𐌾	CARPATHIAN BASIN ROVAS CAPITAL LETTER UEE;Lu;0;R;;;;N;;;;;
1xx24;	𐌿	CARPATHIAN BASIN ROVAS CAPITAL LETTER W;Lu;0;R;;;;N;;;;;
1xx25;	𐍀	CARPATHIAN BASIN ROVAS CAPITAL LETTER X;Lu;0;R;;;;N;;;;;
1xx26;	𐍁	CARPATHIAN BASIN ROVAS CAPITAL LETTER Y;Lu;0;R;;;;N;;;;;
1xx27;	𐍂	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;  CARPATHIAN BASIN ROVAS SMALL LETTER A;Ll;0;R;;;;N;;;;;
 1xx31;  CARPATHIAN BASIN ROVAS SMALL LETTER AA;Ll;0;R;;;;N;;;;;
 1xx32;  CARPATHIAN BASIN ROVAS SMALL LETTER D;Ll;0;R;;;;N;;;;;
 1xx33;  CARPATHIAN BASIN ROVAS SMALL LETTER DZ;Ll;0;R;;;;N;;;;;
 1xx34;  CARPATHIAN BASIN ROVAS SMALL LETTER DZS;Ll;0;R;;;;N;;;;;
 1xx35;  CARPATHIAN BASIN ROVAS SMALL LETTER E;Ll;0;R;;;;N;;;;;
 1xx36;  CARPATHIAN BASIN ROVAS SMALL LETTER FORKED E;Ll;0;R;;;;N;;;;;
 1xx37;  CARPATHIAN BASIN ROVAS SMALL LETTER F;Ll;0;R;;;;N;;;;;
 1xx38;  CARPATHIAN BASIN ROVAS SMALL LETTER FORKED G;Ll;0;R;;;;N;;;;;
 1xx39;  CARPATHIAN BASIN ROVAS SMALL LETTER SHORT G;Ll;0;R;;;;N;;;;;
 1xx3A;  CARPATHIAN BASIN ROVAS SMALL LETTER GY;Ll;0;R;;;;N;;;;;
 1xx3B;  CARPATHIAN BASIN ROVAS SMALL LETTER H;Ll;0;R;;;;N;;;;;
 1xx3C;  CARPATHIAN BASIN ROVAS SMALL LETTER CH;Ll;0;R;;;;N;;;;;
 1xx3D;  CARPATHIAN BASIN ROVAS SMALL LETTER ANGLED I;Ll;0;R;;;;N;;;;;
 1xx3E;  CARPATHIAN BASIN ROVAS SMALL LETTER ARCHED I;Ll;0;R;;;;N;;;;;
 1xx3F;  CARPATHIAN BASIN ROVAS SMALL LETTER CIRCLE ENDED I;Ll;0;R;;;;N;;;;;
 1xx40;  CARPATHIAN BASIN ROVAS SMALL LETTER J;Ll;0;R;;;;N;;;;;
 1xx41;  CARPATHIAN BASIN ROVAS SMALL LETTER KUE;Ll;0;R;;;;N;;;;;
 1xx42;  CARPATHIAN BASIN ROVAS SMALL LETTER L;Ll;0;R;;;;N;;;;;
 1xx43;  CARPATHIAN BASIN ROVAS SMALL LETTER SIMPLE L;Ll;0;R;;;;N;;;;;
 1xx44;  CARPATHIAN BASIN ROVAS SMALL LETTER M;Ll;0;R;;;;N;;;;;
 1xx45;  CARPATHIAN BASIN ROVAS SMALL LETTER NG;Ll;0;R;;;;N;;;;;
 1xx46;  CARPATHIAN BASIN ROVAS SMALL LETTER NY;Ll;0;R;;;;N;;;;;
 1xx47;  CARPATHIAN BASIN ROVAS SMALL LETTER O;Ll;0;R;;;;N;;;;;
 1xx48;  CARPATHIAN BASIN ROVAS SMALL LETTER OO;Ll;0;R;;;;N;;;;;
 1xx49;  CARPATHIAN BASIN ROVAS SMALL LETTER OE;Ll;0;R;;;;N;;;;;
 1xx4A;  CARPATHIAN BASIN ROVAS SMALL LETTER SIMPLE P;Ll;0;R;;;;N;;;;;
 1xx4B;  CARPATHIAN BASIN ROVAS SMALL LETTER Q;Ll;0;R;;;;N;;;;;
 1xx4C;  CARPATHIAN BASIN ROVAS SMALL LETTER CLOSE R;Ll;0;R;;;;N;;;;;
 1xx4D;  CARPATHIAN BASIN ROVAS SMALL LETTER S;Ll;0;R;;;;N;;;;;
 1xx4E;  CARPATHIAN BASIN ROVAS SMALL LETTER CLOSE T;Ll;0;R;;;;N;;;;;
 1xx4F;  CARPATHIAN BASIN ROVAS SMALL LETTER ANGLED T;Ll;0;R;;;;N;;;;;
 1xx50;  CARPATHIAN BASIN ROVAS SMALL LETTER U;Ll;0;R;;;;N;;;;;
 1xx51;  CARPATHIAN BASIN ROVAS SMALL LETTER RAISED U;Ll;0;R;;;;N;;;;;
 1xx52;  CARPATHIAN BASIN ROVAS SMALL LETTER UE;Ll;0;R;;;;N;;;;;
 1xx53;  CARPATHIAN BASIN ROVAS SMALL LETTER UEE;Ll;0;R;;;;N;;;;;
 1xx54;  CARPATHIAN BASIN ROVAS SMALL LETTER W;Ll;0;R;;;;N;;;;;
 1xx55;  CARPATHIAN BASIN ROVAS SMALL LETTER X;Ll;0;R;;;;N;;;;;
 1xx56;  CARPATHIAN BASIN ROVAS SMALL LETTER Y;Ll;0;R;;;;N;;;;;
 1xx57;  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 + 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 · 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 Rovas scripting in the Carpathian Basin evolved in isolation from the Khazarian Rovas. Carpathian Basin Rovas was used up to the 11th c. and 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. A further technique was borrowing the glyphs of ↑ C /t̃s/ and Y ZS /z/ from the Szekely-Hungarian Rovas. Finally some letters were created as ligatures for /t̃s/, /d̃z/, /d̃z/, /ks/, /i/j/, and /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 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
Y	A	<ul style="list-style-type: none"> • Kiskőrös, chalice, <i>Fig. 2-2</i> • Nagyszentmiklós, jug No. 6, 9th-10th c., <i>Fig. 2-8</i> • Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i> • Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
Y	AA	<ul style="list-style-type: none"> • Jánoshida, needle case, last third of the 7th c., <i>Fig. 2-4</i> • Web site transcribed by Giczi's software, <i>Fig. 2-17</i> • Web site transcribed by Giczi's software, <i>Fig. 2-17</i> • Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
X	B	<ul style="list-style-type: none"> • Jánoshida, needle case, last third of the 7th c., <i>Fig. 2-4</i> • Szarvas, needle case, 8th c., <i>Fig. 2-5</i>

Glyph	Name	Examples of the glyph in relics and publications
↑	C	<ul style="list-style-type: none"> Pangram of Schwetter, 2009 (modified in 2011), <i>Fig. 2-16</i> An article in the Rovas Info News Site, <i>Fig. 2-18</i>
⌏	CS	<ul style="list-style-type: none"> Alphabet of Aethicus, 8th c., <i>Fig. 2-11, simplified glyph: ⌏</i> Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14, glyph: ⌏</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
>	D	<ul style="list-style-type: none"> Környe, bow, the end of the 7th c., <i>Fig. 2-3</i> Nagyszentmiklós, bowl No. 8, 9th-10th c., <i>Fig. 2-6/a & b</i> Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., <i>Fig. 2-7/a & b</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
⌐	DZ	<ul style="list-style-type: none"> Pangram of Schwetter, 2009 (modified in 2011), <i>Fig. 2-16</i>
⌑	DZS	<ul style="list-style-type: none"> Pangram of Schwetter, 2009 (modified in 2011), <i>Fig. 2-16</i>
⌒	E	<ul style="list-style-type: none"> Alphabet of Aethicus, 8th c., <i>Fig. 2-11, calligraphic: ⌒</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
⌓	FORKED E	<ul style="list-style-type: none"> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Nagyszentmiklós, flat-shallow ladle No. 15, 9th-10th c. <i>Fig. 2-9</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
⌔	F	<ul style="list-style-type: none"> Szarvas, needle case, <i>Fig. 2-5</i> Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
⌕	FORKED G	<ul style="list-style-type: none"> Alphabet of Aethicus, 8th c., <i>Fig. 2-11, calligraphic: ⌕</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
⌖	SHORT G	<ul style="list-style-type: none"> Jánoshida, needle case, last third of the 7th c., <i>Fig. 2-4, in a ligature: ⌖</i> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> An article in the Rovas Info News Site, <i>Fig. 2-18</i>
⌗	GY	<ul style="list-style-type: none"> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
⌘	H	<ul style="list-style-type: none"> Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., <i>Fig. 2-7/a & b</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i> Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
⌙	CH	<ul style="list-style-type: none"> Békés-Povádzug, bone cover of a bow, 10th c., <i>Fig. 2-12</i>
⌚	ANGLED I	<ul style="list-style-type: none"> Jánoshida, needle case, last third of the 7th c., <i>Fig. 2-4, in a ligature: ⌚</i> Szarvas, needle case, 8th c., <i>Fig. 2-5, mirrored glyph</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
⌛	ARCHED I	<ul style="list-style-type: none"> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Nagyszentmiklós, bowl No. 8, 9th-10th c., <i>Fig. 2-6/a & b</i> Nagyszentmiklós, jug No. 5, 9th-10th c., <i>Fig. 2-10</i>
⌜	CIRCLE ENDED I	<ul style="list-style-type: none"> Alphabet of Aethicus, 8th c., <i>Fig. 2-11, calligraphic: ⌜</i> An article in the Rovas Info News Site, <i>Fig. 2-18</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>

Glyph	Name	Examples of the glyph in relics and publications
D	J	<ul style="list-style-type: none"> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Nagyszentmiklós, bowl No. 8, 9th-10th c., <i>Fig. 2-6/a & b</i> Nagyszentmiklós, jug No. 6, 9th-10th c., <i>Fig. 2-8</i> Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
𐌆	OPEN K	<ul style="list-style-type: none"> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
𐌇	TRIANGULAR K	<ul style="list-style-type: none"> Torja, pot fragment, 11th c., <i>Fig. 2-13, in a ligature</i>
𐌈	KUE	<ul style="list-style-type: none"> Nagyszentmiklós, flat-shallow ladle No. 15, 9th-10th c. <i>Fig. 2-9</i>
𐌉	L	<ul style="list-style-type: none"> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
𐌊	SIMPLE L	<ul style="list-style-type: none"> Környe, bow, the end of the 7th c., <i>Fig. 2-3</i>
𐌋	LY	<ul style="list-style-type: none"> Alphabet of Aethicus, 8th c., <i>Fig. 2-11, glyph: 𐌋</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
𐌌	M	<ul style="list-style-type: none"> Szarvas, needle case, <i>Fig. 2-5</i> Nagyszentmiklós, jug No. 6, 9th-10th c., <i>Fig. 2-8</i> Nagyszentmiklós, jug No. 5, 9th-10th c., <i>Fig. 2-10</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
𐌍	N	<ul style="list-style-type: none"> Környe, bow, the end of the 7th c., <i>Fig. 2-3</i> Szarvas, needle case, 8th c., <i>Fig. 2-5</i> Torja, pot fragment, 11th c., <i>Fig. 2-13, in a ligature</i> Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
𐌎	NG	<ul style="list-style-type: none"> Jánoshida, needle case, last third of the 7th c., <i>Fig. 2-4, in ligatures: 𐌎, 𐌏</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
𐌏	NY	<ul style="list-style-type: none"> Nagyszentmiklós, bowl No. 8, 9th-10th c., <i>Fig. 2-6/a & b</i> Nagyszentmiklós, jug No. 6, 9th-10th c., <i>Fig. 2-8</i> Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
𐌐	O	<ul style="list-style-type: none"> Nagyszentmiklós, bowl No. 8, 9th-10th c., <i>Fig. 2-6/a & b</i> Nagyszentmiklós, bowl No. 10 and cup No. 22, 9th-10th c., <i>Fig. 2-7/a & b</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
𐌑	OO	<ul style="list-style-type: none"> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
𐌒	OE	<ul style="list-style-type: none"> Journal article transcribed by Kliha' software, <i>Fig. 2-19</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
N	GH	<ul style="list-style-type: none"> Ozora-Tótipusztá, silver vessel, <i>Fig. 2-1, in a ligature</i> Környe, bow, the end of the 7th c., <i>Fig. 2-3</i> Szarvas, needle case, 8th c., <i>Fig. 2-5, mirrored glyph: 𐌒</i> Nagyszentmiklós, bowl No. 8, 9th-10th c., <i>Fig. 2-6/a & b</i> Nagyszentmiklós, jug No. 5, 9th-10th c., <i>Fig. 2-10, mirrored glyph: 𐌒</i> Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
𐌓	P	<ul style="list-style-type: none"> Alphabet of Aethicus, 8th c., <i>Fig. 2-11, calligraphic: 𐌓</i> On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
1	SIMPLE P	<ul style="list-style-type: none"> Kiskőrös, chalice, <i>Fig. 2-2</i>

Glyph	Name	Examples of the glyph in relics and publications
⌘	Q	- Nagyszentmiklós, jug No. 5, 9 th -10 th c., <i>Fig. 2-10, glyph: 8</i>
□	CLOSE R	- Jánoshida, needle case, last third of the 7 th c., <i>Fig. 2-4, in a ligature</i> - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9 th -10 th c., <i>Fig. 2-7/a & b</i> - On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
⦶	S	- Nagyszentmiklós, bowl No. 8, 9 th -10 th c., <i>Fig. 2-6/a & b</i> - Nagyszentmiklós, jug No. 5, 9 th -10 th c., <i>Fig. 2-10</i> - Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i> - Design of the town sign of Jánoshida, 2011, <i>Fig. 2-20</i>
┆	SZ	- Ozora-Tótipusza, silver vessel, 670-790, <i>Fig. 2-1</i> - Jánoshida, needle case, last third of the 7 th c., <i>Fig. 2-4</i> - Nagyszentmiklós, jug No. 6, 9 th -10 th c., <i>Fig. 2-8</i>
⦶	CLOSE T	- Szarvas, needle case, 8 th c., <i>Fig. 2-5</i> - Nagyszentmiklós, bowl No. 8, 9 th -10 th c., <i>Fig. 2-6/a & b</i> - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9 th -10 th c., <i>Fig. 2-7/a & b</i>
⌘	ANGLED T	- Ozora-Tótipusza, silver vessel, 670-790, <i>Fig. 2-1</i> - Kiskörös, chalice, <i>Fig. 2-2, in a ligature</i> - Környe, bow, the end of the 7 th c., <i>Fig. 2-3, glyph: ʌ</i>
⌘	U	- Nagyszentmiklós, jug No. 6, 9 th -10 th c., <i>Fig. 2-8</i> - Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i> - Web site transcribed by Giczi's software, <i>Fig. 2-17</i> - On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
⌘	RAISED U	- Nagyszentmiklós, jug No. 6, 9 th -10 th c., <i>Fig. 2-8</i> - Web site transcribed by Giczi's software, <i>Fig. 2-17</i> - On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
ʒ	UE	- Szarvas, needle case, 8 th c., <i>Fig. 2-5</i> - An article in the Rovas Info News Site, <i>Fig. 2-18</i> - On-line journal article transcribed by Kliha' software, <i>Fig. 1-19</i>
ɹ	UEE	- Jánoshida, needle case, last third of the 7 th c., <i>Fig. 2-4, in a ligature: ʒ</i> - Nagyszentmiklós, bowl No. 10 and cup No. 22, 9 th -10 th c., <i>Fig. 2-7/a & b</i> - Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i>
ʒ	OPEN V	- Nagyszentmiklós, bowl No. 8, 9 th -10 th c., <i>Fig. 2-6/a & b</i> - Nagyszentmiklós, jug No. 6, 9 th -10 th c., <i>Fig. 2-8</i> - Nagyszentmiklós, flat-shallow ladle No. 15, 9 th -10 th c. <i>Fig. 2-9</i> - Poem transcribed by M. Forrai jr., 2009, <i>Fig. 2-14</i>
ʒ	W	- Környe, bow, the end of the 7 th c., <i>Fig. 2-3</i>
ʒ	X	- An article in the Rovas Info News Site, <i>Fig. 2-18</i>
ʒ	Y	- An article in the Rovas Info News Site, <i>Fig. 2-18</i>
ʒ	Z	- Szarvas, needle case, 8 th c., <i>Fig. 2-5</i> - Alphabet of Aethicus, 8 th c., <i>Fig. 2-11</i> - Nagyszentmiklós, bowl No. 8, 9 th -10 th c., <i>Fig. 2-6/a & b</i> - Web site transcribed by Giczi's software, <i>Fig. 2-17</i>
ʒ	ZS	- Pangram of Schwetter, 2009 (modified in 2011), <i>Fig. 2-16</i>

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, it is proposed to use the appropriate Rovas characters from the Szekely-Hungarian Rovas script (latest proposal: N4007, 2011-05-21).⁶⁴

⁶⁴ Hosszú, 2011b

Glyph	Name of the identical Szekely-Hungarian Rovas characters
X	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER B
↑	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER C
𐌵	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
N	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER GH
𐌶	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER P
l	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER SZ
↯	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER OPEN V
Y	SZEKELY-HUNGARIAN ROVAS CAPITAL LETTER ZS
x	SZEKELY-HUNGARIAN ROVAS SMALL LETTER B
↑	SZEKELY-HUNGARIAN ROVAS SMALL LETTER C
𐌵	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
N	SZEKELY-HUNGARIAN ROVAS SMALL LETTER GH
𐌶	SZEKELY-HUNGARIAN ROVAS SMALL LETTER P
l	SZEKELY-HUNGARIAN ROVAS SMALL LETTER SZ
↯	SZEKELY-HUNGARIAN ROVAS SMALL LETTER OPEN V
Y	SZEKELY-HUNGARIAN ROVAS SMALL LETTER ZS

4.3. Numbers

The Carpathian Basin Rovas script has two known numbers 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 they do not need individual code points.⁶⁵

4.4. Punctuation

The Carpathian Basin Rovas has two punctuation marks used for separating words or sentences, see the 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
+	WORD SEPARATOR VERTICAL CROSS	Nagyszentmiklós, bowl No. 8, 9 th -10 th c., <i>Fig. 2-6/a & b</i>

⁶⁵ Hosszú, 2011b

Glyph	Name of the Carpathian Basin Rovas character	Examples of the glyph in the relics
┆	WORD SEPARATOR VERTICAL BAR	<ul style="list-style-type: none"> Needle Case of Szarvas, <i>Fig. 2-5</i> Bowl No. 10 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 only stylistic. 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
	/ˈxːx/	CHCH	⌘ CH /x/ + ⌘ CH /x/
	/iŋ/	ING	1 ANGLED I /i/ + ʏ NG /ŋ/
	/ix/	IGH	1 ANGLED I /i/ + N GH /ɣ/
	/ka:/	KAA	Δ TRIANGULAR K /k/ + ʏ FORKED E /a:/
	/ny/	NGUE	ʏ NG /ŋ/ + ʔ UE /y/
	/rg/	RG	□ CLOSE R /r/ + ʌ G /g/
	/tɑ/	TA	⌘ ANGLED T /t/ + ʏ A /ɑ/
	/βːrɣ/	WORGH	1 OPEN V /β/ + □ CLOSE R /r/ + N GH /ɣ/

5. Ordering

In ordering the Common Template Table defined in the International Standard ISO/IEC 14651 is adapted.⁶⁶ 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:

ʏ A < ʏ AA < ⌘ B < ⌘ C < □ CS < > D < ʔ DZ < ʏ DZS < ʔ E < ʏ FORKED E < 1 F < ⌘ FORKED G < ʌ SHORT G < ʏ GY < ⌘ H < ⌘ CH < 1 ANGLED I < ʏ ARCHED I < 1 CIRCLE ENDED I < D J < 1 OPEN K < Δ TRIANGULAR K < ʔ KUE < ʏ L < ʏ SIMPLE L < ʔ LY < ʔ M < ʏ N < ʏ NG < ʏ NY < ʔ O < ʔ OO < ʔ OE < N GH < ʔ P < 1 SIMPLE P < ⌘ Q < □ CLOSE R < ʔ S < ʏ SZ < ʔ CLOSE T < ⌘ ANGLED T < ⌘ U < ⌘ RAISED U < ʔ UE < ʔ UEE < 1 OPEN V < ʏ W < ʏ X < D Y < ʔ Z < ʏ ZS

Level 2

This breaks ties on quasi-homographs (strings differing only because they have different diacritical marks). In the case of the Carpathian Basin Rovas there is no diacritical mark; however, it cannot be discounted that someone will use combining characters in entering the data.⁶⁷

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.

⁶⁶ LaBonté, 2007a & 2007b

⁶⁷ LaBonté, 2010

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 Level 4 of the ordering does not differ from the same level in the case of the Hungarian Latin orthography.

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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 10646⁶⁸**

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: **October 12, 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			
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

⁶⁸ 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:	
<p>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.</p>	

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?	<p><i>National Standardisation Technical Committee called Informatics (MSZT/MB 819) of the Hungarian Standards Institution,</i></p> <p><i>Rovas Foundation</i></p> <p><i>RovasPedia</i></p> <p><i>Márton Forrai Jr., Péter Füzi, György Giczi, Dániel Gribek, Levente Horváth, Dr. Gábor Hosszú, Gergely Kliha, Angéla Ócsai, Tamás Rumi, László Sípó, Tamás Somfai, Levente Süttő, Zsuzsanna Éva Szabó, Gábor Szentimrei, Erik Vida, Árpád Zubrits et al.</i></p>
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:	<i>Historical use by mainly Hungarians in the Carpathian Basin and nowadays potential use by Hungarian Rovas writers.</i>
4. The context of use for the proposed characters (type of use; common or rare)	Rare
Reference:	<i>Historical and contemporary use, http://rovasirashonlap.fw.hu, http://ifjforraimarton.fw.hu</i>
5. Are the proposed characters in current use by the user community?	Yes
If YES, where? Reference:	<p><i>Scholarly and popular publications.</i></p> <p><i>The Rovas Writing Home Page: http://rovasirashonlap.fw.hu</i></p> <p><i>Rovas Info News Site: http://rovas.info</i></p> <p><i>RovasPedia: http://wiki.rovas.info</i></p> <p><i>The Rovas page by Márton Forrai jun.: http://ifjforraimarton.fw.hu/</i></p> <p><i>Rovas Transcribe Site: http://mutasdrovassal.hu/KarpatMedencei.aspx</i></p>
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:		
<hr/>		
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:		
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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:		
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Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?		No
If YES, reference:		
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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)		
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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:		
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