Preliminary proposal to encode the Sidetic script in Unicode

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1 Introduction

Sidetic was mentioned in Unicode Technical Report #3 by Rick McGowan and Joe Becker (1992). Along with Carian, Lycian, and Lydian, it was not considered for encoding at that time due to lack of information. While the other Anatolian alphabets were subsequently encoded in Unicode, there was no progress on Sidetic. It was listed on 'Not The Roadmap' due to questions about its status as a 'script'. In 2019, I submitted "Introducing the Sidetic Script" (L2/19-106) to present evidence that Sidetic is a true and distinctive script. Following that, Sidetic was allocated to the Supplementary Multilingual Plane (SMP), appropriately in a right-to-left zone. Scholarship on Sidetic has steadily advanced since 1950 and there have been important expansions in our understanding of the script since 2000, with active research being pursued today. Encoding the script in Unicode will help to advance the scholarship on Sidetic by enabling reproduction and exchange of its sources in digital plain text. The present document is my second step towards achieving that aim.

2 Background

Sidetic is a right-to-left alphabet that was used from the 5th through 2nd centuries BCE for writing a nowextinct Indo-European language of the Anatolian branch, which is also referred to by scholars as 'Sidetic' (ISO 639: xsd). The name 'Side' is borrowed from the Greek name of the ancient city where the language and script were used, that being ' Σ i $\delta\eta$ ', located in the region of Pamphylia, on the southern coast of Anatolia on the Mediterranean.

Sidetic has not been fully deciphered. Scholars have identified at least 29 distinctive letters. There is some consensus on the values of 26 letters. The values of the other 3 letters are unclear. Of these 26 letters, there are 5 vowel letters, 2 semi-vowels, and 19 consonants.

The origins of Sidetic are not clearly known. Scholars believe that it developed from the Phoenician script in parallel with Greek. Some Sidetic letterforms resemble those found in Greek, as well as in Carian, Lycian, and Lydian, but differ in the assignment of sound values (see fig. 12). Sidetic has other letters not found in these other scripts. The right-to-left orientation of Sidetic sets it apart from the normative left-to-right direction of Greek. The other Anatolian alphabets were also written from right-to-left, but could also be written left-to-right. Such variation is not observed for Sidetic in the available sources.

The script is attested on numerous coins and inscriptions (some specimens are shown in fig. 1–5). The inscriptions prove that Sidetic is a true writing system, especially its distinctive representation alongside Greek in a few bilingual inscriptions.

3 Character Inventory

While Sidetic has not yet been fully deciphered, there is some consensus among scholars in the field on the values of 21 of the 29 letters in the documented repertoire. Values have been proposed, but not fully established for 5 letters that occur with less frequency in the sources. The values of 3 other letters attested in coinage are unclear. Additional research of these is required.

Sidetic letters are traditionally referred to by scholars using serial numbers, eg. 1–29. This enumeration was developed by Bossert 1950 (fig. 6), then expanded by Brandenstein 1958 (fig. 7), Neuman 1978 (fig. 8), Woudhuizen 1985 (fig. 9), Nollé 1985 (fig. 10), and Rizza 2005 (fig. 11). The latest work by Rizza extended the number of characters to 29.

The arrangement of the repertoire has 5 vowel letters at the top, followed by 2 semi-vowels, then the consonants.

3.1 Preliminary Unicode repertoire

The preliminary Unicode repertoire for Sidetic contains 26 characters, and is shown in the table below.

Order The repertoire is currently arranged according to the scholarly enumeration system; although an alphabetic ordering may be practical.

Representative glyphs The representative glyphs for Sidetic letters are based upon forms attested in inscriptions. These are shown below in the 'glyph' column.

Variant forms Variant forms of letters used in inscriptions are provided in the 'variants' column. These are to be unified with the representative form, although there are some forms that are sufficiently distinct as to be considered for encoding as separate characters (see below).

Character names The proposed Unicode character name for each letter is based upon the most recently accepted phonetic values (Nollé 2001, Rizza 2005); subscript numbers used in scholarly transliterations are normalized using '-' (dash) followed by the respective number. The scholarly transliteration of each sign into Latin is also given.

Exclusions Letters #27, #28, #29 are currently excluded from the repertoire as there is insufficient information regarding their values.

#	Glyph	Variants	Proposed character name	Latin
1	5	5	SIDETIC LETTER A	а
2	×		SIDETIC LETTER E	е
3	У	У	SIDETIC LETTER I	i
4	\$	9	SIDETIC LETTER O	0
5	Y		SIDETIC LETTER U	и
6	ζ	\$	SIDETIC LETTER W	w
7	Х	Х	SIDETIC LETTER Y	У
8	ħ		SIDETIC LETTER P	р
9	Ψ		SIDETIC LETTER C	Ç
10	<	(SIDETIC LETTER M	m
11	٦		SIDETIC LETTER T	t
12	ป	Դ	SIDETIC LETTER D	d
13	0		SIDETIC LETTER TH	t^h
14	I		SIDETIC LETTER S	S
15	Ν		SIDETIC LETTER S-2	<i>S</i> ₂
16	>	3	SIDETIC LETTER N	n
17	K	ľ, K	SIDETIC LETTER L	l
18	\uparrow		SIDETIC LETTER T-2	t_2
19	И	Н	SIDETIC LETTER G	g
20	Х		SIDETIC LETTER X	x
21	\wedge	Κ, λ	SIDETIC LETTER R	r
22	š		SIDETIC LETTER A-2	a_2
23	Р		SIDETIC LETTER K	k
24	>), {	SIDETIC LETTER B	b
25	3		SIDETIC LETTER N-2	<i>n</i> ₂
26	у	У	SIDETIC LETTER Z	Z

3.1.1 Notes on the values of letters

The letters \gtrless and \oiint represent *w* and *y*, but in the past, some scholars flipped the assignment of sound values.

3.1.2 Glyphic variants and alternate forms

Some of the forms listed as glyphic variants may be candidates for separate encoding if it occurs concurrently with the representative form, eg. *z* represented using both \forall and \forall in S9 (see fig. 5). A glyphic variant may also be encoded separately if it differs substantially in structure from the representative form, eg. \Im for $\exists d$ in S2 (see fig. 2).

3.2 Letters currently excluded from the proposed repertoire

The values for the following letters have not been properly established. They are used on coinage and were added to the scholarly repertoire by Rizza 2005; the latter two may represent ligatures.

#	Glyph	Variants	Possible character name	Latin
27	Ŷ		SIDETIC LETTER Q	q (?)
28	ନ୍ଦ		SIDETIC LETTER LIGATURE-1	
29	1		SIDETIC LETTER LIGATURE-2	

3.3 Other script details

- *Punctuation* Script-specific punctuation is not attested. Usage of spaces for separating words and other text segments is inconsistent.
- *Line-breaking* The sources do not contain evidence showing rules for breaking words at the end of line. Words are typically split after a letter when it occurs at a 'margin' or some defined position on the surface, and continued on the next line with the subsequent letter in the word. There are no indications of hyphens or other continuation marks. In digital layouts, line-breaks should occur after words.
- *Digits* Digits are not attested in Sidetic records.

4 Next Steps

Feedback on the following is requested from experts, which may be sent to the proposal author at the aforementioned email address:

- 1. Defining the character repertoire
- 2. Understanding the semantics of #9, #15, #18, #22, #25, as well as #27, #28, #29
- 3. Identifying the representative forms for letters
- 4. Confirming the sound values and transliteration of letters
- 5. Validating the proposed Unicode character names
- 6. Determining which glyphic variants may be considered distinctive characters
- 7. Collecting other letters not described in this proposal

Additional attestations of Sidetic have been gathered for analysis, and research is being actively conducted. A formal proposal is forthcoming.

5 Character Data

Character Properties: UnicodeData.txt

```
10940;SIDETIC LETTER A;Lo;0;R;;;;;N;;;;;
10941;SIDETIC LETTER E;Lo;0;R;;;;;N;;;;;
10942;SIDETIC LETTER I;Lo;0;R;;;;;N;;;;;
10943;SIDETIC LETTER 0;Lo;0;R;;;;;N;;;;;
10944;SIDETIC LETTER U;Lo;0;R;;;;;N;;;;;
10945;SIDETIC LETTER W;Lo;0;R;;;;;N;;;;;
10946;SIDETIC LETTER Y;Lo;0;R;;;;;N;;;;;
10947;SIDETIC LETTER P;Lo;0;R;;;;;N;;;;;
10948;SIDETIC LETTER C;Lo;0;R;;;;;N;;;;;
10949;SIDETIC LETTER M;Lo;0;R;;;;;N;;;;;
1094A;SIDETIC LETTER T;Lo;0;R;;;;;N;;;;;
1094B;SIDETIC LETTER D;Lo;0;R;;;;;N;;;;;
1094C;SIDETIC LETTER TH;Lo;0;R;;;;;N;;;;;
1094D;SIDETIC LETTER S;Lo;0;R;;;;;N;;;;;
1094E;SIDETIC LETTER S-2;Lo;0;R;;;;;N;;;;;
1094F;SIDETIC LETTER N;Lo;0;R;;;;;N;;;;;
10950;SIDETIC LETTER L;Lo;0;R;;;;;N;;;;;
10951;SIDETIC LETTER T-2;Lo;0;R;;;;;N;;;;;
10952;SIDETIC LETTER G;Lo;0;R;;;;;N;;;;;
10953;SIDETIC LETTER X;Lo;0;R;;;;;N;;;;;
10954;SIDETIC LETTER R;Lo;0;R;;;;;N;;;;;
10955;SIDETIC LETTER A-2;Lo;0;R;;;;;N;;;;;
10956;SIDETIC LETTER K;Lo;0;R;;;;;N;;;;;
10957;SIDETIC LETTER B;Lo;0;R;;;;;N;;;;;
10958;SIDETIC LETTER N-2;Lo;0;R;;;;;N;;;;;
10959;SIDETIC LETTER Z;Lo;0;R;;;;;N;;;;;
```

Linebreaking Properties: LineBreak.txt

10940..10959;R # Lo [26] SIDETIC LETTER A..SIDETIC LETTER Z

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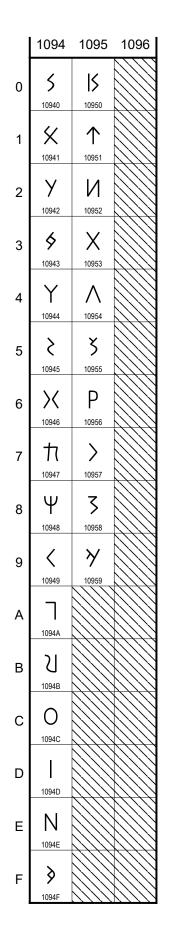
7 Acknowledgments

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The glyphs used in this proposal are derived from the 'Aegean' font developed by George Douros, with modifications and new glyphs created by the proposal author.

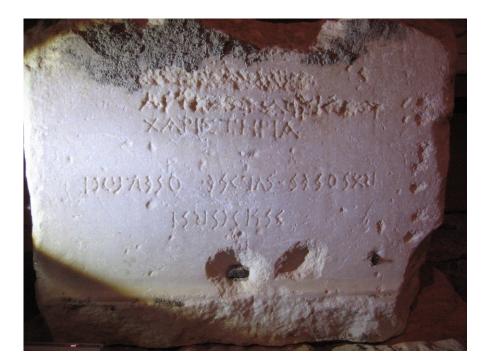
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10940 10941 10942 10943 10944 10945 10946 10947	5 % Y \$ Y	SIDETIC LETTER A SIDETIC LETTER E SIDETIC LETTER I SIDETIC LETTER O SIDETIC LETTER U SIDETIC LETTER W SIDETIC LETTER Y SIDETIC LETTER P
10948	Ψ	SIDETIC LETTER C
10949	<	SIDETIC LETTER M
1094A	٦	SIDETIC LETTER T
1094B	ป	SIDETIC LETTER D
1094C	0	SIDETIC LETTER TH
1094D	1	SIDETIC LETTER S
1094E	Ν	SIDETIC LETTER S-2
1094F	3	SIDETIC LETTER N
10950	15	SIDETIC LETTER L
10951	\uparrow	SIDETIC LETTER T-2
10952	И	SIDETIC LETTER G
10953	Х	SIDETIC LETTER X
10954	Λ	SIDETIC LETTER R
10955	3	SIDETIC LETTER A-2
10956	Ρ	SIDETIC LETTER K
10957	>	SIDETIC LETTER B
10958	3	SIDETIC LETTER N-2
10959	Ŷ	SIDETIC LETTER Z

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ΧΧΧΧΧΧΧΧΧ Α[ΡΤΕΜ]ΩΝΑΘ[ΗΝΟΒΙ]ΟΥ ΧΑΡΙΣΤΗΡΙΑ

ΙΧΥΤΙ>50 >><<p>Λ5 >>>O5XUISUSXISS

Published tracings of Sidetic text

|)<りたう50 **う5**<7*15* 5う50 5矢U |5ひ5>**(**|45<

Zinko & Zinko (2015)

Nollé (2001: 631)

Transliteration of Sidetic text

deat^hono artmon t^hanpiys malyadas

Figure 1: Greek and Sidetic dedication to Athena from Artemon (S1). Photo: Zinko and Zinko (2015).



<u>ϫ</u>ΥϮ ៹λζΝζζ ΙζχΫͽ<mark>ξ</mark>φή Ιλφήλφή χΫͽφ<mark>ζ</mark>φή

[Α]ΠΟΛΛΩΝ[ΙΟΣ]] ΑΠΟΛΛΟΔΩΡΟΥ [Τ]ΟΥ ΑΠΟΛΛΩΝΙΟΥ ΑΝΕΘΗΚΕΝ [ΕΙ]ΚΟΝΑ ΤΗΝΔ ΕΑΥΤΟΥ ΘΕΟΙΣ ΠΑΣΙ

[Μ]ΝΑΣΕΑ[Σ] ΑΡΤΕΜΩΝΟΣ ΣΙΔΗΤΗΣ ΕΠΟ[ΙΗ]ΣΕ

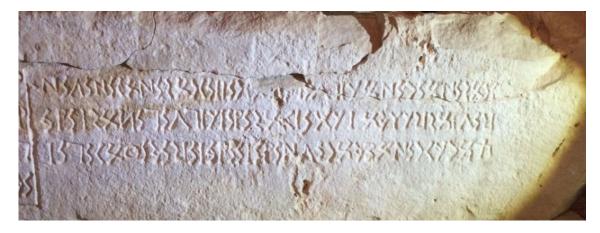
Published tracings of Sidetic text

Nollé (2001: 633)	×ዮዮ ያለያስ እና በያንርዓንያዙያት [ለያቀለያት እናዓንያዙል]	ካ
Zinko & Zinko (2015)	$XY \uparrow X \land SN $ is is in the transformed set in the transformation of transfor	١

Transliteration of Sidetic text

poloniy pord²ors poloniyas mas₂ara t₂ue[...]

Figure 2: Greek and Sidetic dedication to Apollo (S2). Photo: Zinko and Zinko (2015). Sidetic text in red indicates glyphic variants — \forall for $\forall i$; \forall for $\forall l$ — while blue indicates forms that may be true alternates: \Im for $\forall d$.



L3N5A5N5<</p>
KN52
<

Published tracings of Sidetic text

Zinko & Zinko (2015)

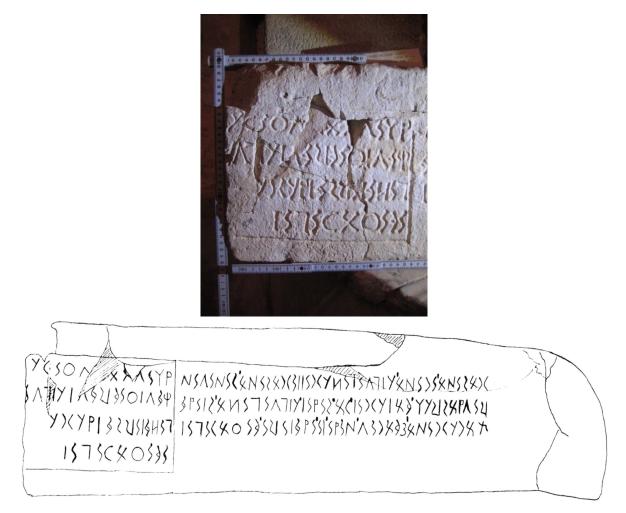
NSASNS(&NS2X)(3115)(7N515A717/2N5)5/2N524)(3P512'XN57571715P52'X(15)(7143'77212/4PA54 1575(4053'54515P351'5P3N'A3)29322N52(7)XX

KN{A\$N\${KN\${KN\${K}}{5}} KN{A\$N\${KN\${K}}{5}} Nollé (2001: 635) \$P\$I\KN\$7\$ATIYI\$P\${K<I\$}{7}</td> I\$ 7\${KO\$}{1}

Transliteration of Sidetic text (Nolle 2001)

wejase a>ase iztratag waz za wejase masarase darPej (darkej ?) diiYneziwaz mejaPaz (mejakaz ?) iztratag ejz aP (ak ?) o pe>iwase 3ne>arsaPaza (3ne>arsakaza ?) aP (ak ?) ozad anaθemataz

Figure 3: Sidetic dedication from the eastern gate (S3). Photo: Zinko and Zinko (2015).



УС\$07 .x7 \\$YP `\71У1 \\$ U }\$0|\\$4 У)\УР|\${U\$|\$H\$7 |} 7 \$ C & O\$}}

У<\$0...\$...Л\$ҮР ...Л...УI...\$Ù}\$OIЛ\$Ψ У)<УРI\$≿Ù\$I\$И\$П I\$П\$<\$05}\$

Figure 4: Sidetic dedication from the eastern gate (S4). Photo: Zinko and Zinko (2015).







zem istos zems artmons poyaw t^handors garis ubat₂zem ubat₂χars ubat₂zems t^handor poyaws t^handors pigse[s] toba₂n₂remar t^hanpiys talamoniy^ca^{*}[s] [p]oyaw poyaws t^handors ^cga^{*}ris []...[]...[][z]^ce^{*}ms

Figure 5: Athenodoros memorial (S9). Photo: Zinko and Zinko (2015). Note the glyphic variant \land for $\land r$. Also, the concurrent usage of variants for z: \forall and \forall .

		Apollonies	Artemon	Side	
1	P.	ħ	Λ	7	Π
2	u/ 0	4	4		0/52
3	L	ĸ		Ř	۸
4	n	>	•)	N
5	i?	У	Y Y	9499	1?
6	o/u?	Х)(0?
7	τ/λ	~	۸		٨ŀ
8	à	4			Δ
9	253	1	1	l	
10	a	5	5 <		A
11	m	<	<		M
12	Ś?	N		NAN	Σ?
13		1		<u>†</u> †	
14	¢?	Y		ΥV	H:
15			ปป	- ¹	
16	\$		0	000	0
17			5	75577	
18	t		٦		T
19			4		
20	83			UUUT	₹ Z
21				15 13	
22				9	
23				44	
29				R	

2. Tabella dei segni della scrittura sidetica.

Figure 6: Letters from Sidetic inscriptions at Apollonias, Artemon, and Side (from Bossert 1950: Table 2).

	Nr.	Wert	Ap.	Art.	Münzen	Kypros	Supp.	Anm.
	1	р	\checkmark	ħ	VYV	∩ = po		
Į	2	0	4	4	4	<u>X</u> = 0		Golgoi
	3	l	К		R	→ = a		
	4	п	\$	\$	\$)¦ = nu	:)	
	5	i	Y	44	4444	X = i	幺 5人	X Paphos
	6	u	Х	Х		X = U	X	
	7	r	Λ	^				∕&Golgoi
	8	d	ழ்			Ƴ = te	Ч	
	9	Z?	Ι	Ι	!	∭ = Z0	vgl.gr.≶=I	
	10	а	5	5	ናን ንጉ	X = a		
	11	m	<	<		iX = mu	X	
	12	ś	Ν		NNHL	۳ = se	μ	v.Nr.23
	13	k?	1		1	↑=ti,1=ka		
	14	t°	Y		ΥV	×¥=pi		
	15	g?		ע ע		Σ = ki	Ϋ́	
	16	th		0	00			gr. O
	17			5	3222	(,∱= V0		3 Golgoi
	18	+		٦		⊢ = ta	4	- Golgoi
	19	Ρš		4		S = pe		4 Golgoi
	20	₩			<u>۶</u> ۲~)^(= Va		∽Pamph.
	21				የ	X = ro		
	22				чŶ	= Nr.21+8	የ +	Ligatur
	23	SS	Pam	phylis	ch 4	vergl. Nr. 12	Ч+Ч	Ligatur

Figure 7: Letters from Sidetic inscriptions and coins and possible analogues in the Cypriot Syllabary (from Brandenstein 1958: Table 2).

	Text I-V	Hűnz- legenden	Brixhe 69	Šeroroškin 75	Neumann 77
1	t	ηh	Р	P	Р
2	4	44	0	0	0
3	K 14	R	ł	l	ł
4	3		n	n	n
5	4	43	i	i	i
6	><		u	ω	ស
7	~		r	r	r
8	रा भा		Ы	d	d
9	0	00	th	θ	θ
10	٦		t	t	t
11	5	1 2 3	a	a	a
12	5 5	32	á ?	å 22	Yariante von U?
13	٢C		m	m	m
14	×		ē ș	e	e
15	1	1	z	z	S
16	И		W	9	9
17	3 8	2		8	۶.
18	N	YYN	5	S	5 ?
19	Y	VY	P šš	u	
20	\wedge	^	e ș	τ	u destruction
21		R	ĩ 22 m	$W_4 = \beta \dot{z}\dot{z}$	
22		99		i	in the second
23	Р			Ь	konsonant
24	Ψ		hšXš	Χŝ	
25	>			k	konsonant
26	3			s	

Figure 8: Sidetic letters in S1–S5 and their provisional values (from Neumann 1978: 875).

1 5.	a
2 29 4	ы
3 X	le
4 >< ><	v
5 0 0	th
6 4 Y Y	[i]
7 8 6 14	14
8 < (m
9 U U	[m]
10 >>>	> n
11 4 5	0
12 7	p
13 WYY	V * ś
14 9	
15 A	r
16 P	r ₁
17 335	∑. s
18 W	ss
19 7	t
20 1	ltli
21 YYV	u

Figure 9: Sidetic letters and postulated values (from Woudhuizen 1985: 127).

17

Nr.13	VOKALE		
01(11)	a	5	gesichert: artmon, 8andor, ana8emataz
02(14)	e	X	gesichert: anaθemataz, e)pel, mejaPaz
03(05)	i	y y	gesichert: 8anpiwz, poloniw
04(02)	0	5	gesichert: poloniw, artmon, 0andor
05(19)	u	Y	wahrscheinlich: diYnesiwaz
	GLEITLAUTE		
06(17)	j	2	wahrscheinlich: mejaPaz, Y)a [†] joroz
07(06)	w	X	gesichert: poloniwaz, diYnesiwaz, jozPiwi, θanpiwz
	LABIALE		
08(01)	Ten.: p	カ	gesichert: poloniw, 0anpiwz
	Med.: b		
09(24)	Asp.: ϕ	Ψ	wahrscheinlich: ØOTZ
10(13)	Nas.: m	<	gesichert: ana0emataz,artmon
	DENTALE		
11(10)	Ten.: t	7	gesichert: artmon, iztratag, ana0emataz
12(08)	Med.: d	U	gesichert: 8andor, pordor, diYnesiwaz
13(09)	Asp.: 0	0	gesichert: Øandor, Øanpiwz, anaØemataz
14(15)	Spir.: z	1	gesichert: iztratag,
15(18)	Spir.: s	N	gesichert: masara
16(04)	Nas.: n	3	gesichert: artmon, 6andor, diYnesiwaz
17(03)	Liq.: 1	15	gesichert: poloniw
18(20)	Affr.: ts	\uparrow	möglicherweise: zdi↑ z
	GUTTURALE		
	Ten.: k		
19(16)	Med.: g	И	gesichert: iztratag
20()	Asp.: ch	×	möglicherweise: Y)a↑Xarz
21(07)	Liq.: r	77	gesichert: artmon, 8andor
	UNIDENTIFIZIERTE		
22()		X	Vokal?: to)Ÿ3remar
23(23)		P	Konsonant: darPej, mejaPaz
24(25)		>	Konsonant: to)Y3remar, Y)a1Xarz, e)pel
25(26)		3	Konsonant?: to)Ÿ3remar
26()		Y	Konsonant: ¥em, Y)aî¥emz

Die Zeichen der sidetischen Steininschriften

Figure 10: Sidetic letters and postulated values (from Nollé 2001: 629).

¹³ Die nicht fettgedruckte Zahl in Klammern gibt die Nummerierung von Neumann 1978, 873f. (= Ausgew. kl. Schriften, 279f.) wieder.

_A	B	С	D	E	F	G
A 1	10	11	23	5	٩	
2	25	14	×		e	
2 3	5	5	У	<u>ک</u> لا	i	
4	2	5	4	5 4 5	0	
5 6 7	14	19	× У У У く Х	VY	υ	
6	26	17	5		j	Ŵ
7	6	6	X		Ŵ	w j
8		1	λ	ካ ከ	P	
9	28	24	ti V			Ş
10	11	13	< C		m	
11	18	10	7		t	
12	15,8	8,21	৸৸		d	
13	16	9	0	00	4 V	
14 15	9	15	1	1	<u>s</u> ٤	
15	12	18 4	N	እ ፈተእ ራ	Ś	
16	4	4	3		n	
1 7 18	3	3	KK	R	t	
18	4 3 13	20	1	1		<u>t</u>
19	24	16	И		8	
20			X			χ
21 22	7	7			r	
22	17		3			
23	27	23	P			K
24	29	25	> 3			Þ
25	39,24,17	26	3	አንንና		
26			У			Z
+27	21	22				040000
+28	22			ዒ		
+29	23			1		

Table 2. Provisional Sic	letic sign-list
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Legenda:

A: Numbering by Nollé (N), a + before number means addition to Nollé's list

B: Numbering by Brixhe

C: Numbering by Neumann

D: Signs as attested in inscriptions (as edited by Nollé)

E: Signs as attested on coins (based upon Neumann and Brixhe)

F: Value of signs (based upon Neumann)

G: Proposals by Peréz 2003; Pérez 2005.

Figure 11: Sidetic letters and postulated values (from Rizza 2005: 72).

(Greek)	Phrygian ^a		Lydian*		Lyc	Lycian ^a		Carian ^b		Sidetic		
А	A	a	Â	a	4	а	A	а	5	а		
					\uparrow	e	(d	×	e		
В	В	Ь	В	Ь	В	b		1	У	i		
					٣	β	E	у	\$	0		
Г	Γ	g	С	g	r	g	F	r	Y	u		
\triangle	\triangle	d	k	d	\triangle	d	I	λ	>	w		
E	E	e	4	e	E	i	•	q	×	j		
F	F	υ	1	v	F	w	Г	b	<i>h</i>			
Z	1	z			I	z	N	m	Ψ	Р ç		
Н					+	h	0	0	<	m		
Θ			1	i	Х	θ	γ	t	٦ ا	t		
I	I	i	D	у	1	у	4	š	ଧ	d		
К	K	k	к	k	k	k	M	s	0	θ		
					*	q	т	?	1	ś		
\wedge	\wedge	1	1	1	\wedge	1 Î	Y	u	N	s		
М	М	m	~	m	~	m	Φ	ñ	3	n		
Ν	Ч	n	Ч	n	\sim	n	X	k	IS	1		
					X	ñ	Ψ	n	↑	ţ		
Ξ					Ŧ	ñ	<u>۵۵</u>	р	и			
0	0	0	0	0	0	0	Φ	ś	×	g X		
П	P	p		Ŭ	Г П	P	e	i		л r		
Q		P	+	q	\$	r ĸ		e	5	a/u		
P	P	r	P	r r	P	r	P P	ý	n	k		
Σ	ξ.	s	Ŧ	s	5	s		k	>	b		
-		5	ર	ś		5	*	δ	3	n		
Т	Т	t	Т	t	Т	t	m	w	k	z		
Ý	Ý	u	Y	u	· ٣	τ	X	y y		2		
Φ	φ.	p^{h}	8	f	W	ã)(ð Z				
×	¥	Р	5		Ť	ẽ	×	ŋ				
Ψ	¥	\mathbf{k}^{h}			v		Н	j				
Ω.		Б	Ξ	τ	•	Х	بالله خ	?				
			M	ã			1	τ				
			Ϋ́	ē				ŕ				
			Ϋ́	λ			6 ע	β				
			- ~	л v			P	β_2				
			1	c			'	P^2				

Tab. 5.12: Anatolian alphabets

a. After Swiggers & Jenniges in Daniels & Bright (1996, 283).

b. After Adiego (2007, 508).

c. After Pérez Orosco (2005).

Figure 12: Comparison of Anatolian alphabets (from Klein, Joseph, and Fritz 2017: 44).