

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

**Doc Type: Working Group Document**

**Title: Proposal to encode the Lycian and Lydian scripts in the SMP of the UCS**

**Source: Michael Everson**

**Status: Individual Contribution**

**Action: For consideration by JTC1/SC2/WG2 and UTC**

**Date: 2006-01-12**

This document replaces N2939 and N2940, and contains the proposal summary form.

The two scripts proposed here are all ultimately derived from Greek, and were used to represent some Indo-European languages of Anatolia. Unlike the family of Old Italic scripts (Etruscan, Oscan, Umbrian, Faliscan, North Picene, South Picene, and Messapic), however, the Anatolian scripts have unique repertoires, shapes, and character properties, and it is not appropriate to unify them in a single “Anatolian” script. At one point in preparing this proposal I tried to make a comparison chart between the three scripts—but that exercise proved pretty much impossible to do, because the shapes and values of the different characters really don’t match up (as they do for Old Italic). Nevertheless, because they and the languages they are used for are related, it makes sense to propose them together in the proposal so that experts can review them more easily. Lycian and Lydian are simpler scripts, so I have proposed these here. A subsequent document will deal with Carian, which is more problematic and requires further research.



**Figure 1.** Anatolia, showing Lydia, Lydia, and Caria

## Lycian

Lycian is used to write an ancient Indo-European language of Western Anatolia, which is related to Luwian, Lydian, Hittite, and Palaic. It was used from ca. 500 BCE to about 200 BCE. The term “Lycian” is now used in place of “Lycian A”. A dialect of Lycian, attested in two texts in Anatolia, is called “Lycian B”, or “Milyan”, and dates to the first millennium BCE. The Lycian script appears on some 150 (mostly sepulchral) stone inscriptions on stone, more than 200 coins, and a few other objects. Some of the more important inscriptions are the stele of Xanthos, which describe architectural and military activities, and a trilingual religious inscription in Lycian, Greek, and Aramaic. The script itself is either derived from Greek, or closely related to it.

## Processing of Lycian

Lycian is a simple alphabetic script written left-to-right, with frequent use of word-dividers. The recommended word divider is U+205A TWO DOT PUNCTUATION; when *scriptio continua* is used, U+200B ZERO-WIDTH SPACE might be inserted to mark breaks. In modern editions modern U+0020 SPACE may be found.

## Unicode Character Properties for Lycian

```

10280;LYCIAN LETTER A;Lo;0;L;;;;;N;;;;;
10281;LYCIAN LETTER E;Lo;0;L;;;;;N;;;;;
10282;LYCIAN LETTER B;Lo;0;L;;;;;N;;;;;
10283;LYCIAN LETTER BH;Lo;0;L;;;;;N;;;;;
10284;LYCIAN LETTER G;Lo;0;L;;;;;N;;;;;
10285;LYCIAN LETTER D;Lo;0;L;;;;;N;;;;;
10286;LYCIAN LETTER I;Lo;0;L;;;;;N;;;;;
10287;LYCIAN LETTER W;Lo;0;L;;;;;N;;;;;
10288;LYCIAN LETTER Z;Lo;0;L;;;;;N;;;;;
10289;LYCIAN LETTER TH;Lo;0;L;;;;;N;;;;;
1028A;LYCIAN LETTER J;Lo;0;L;;;;;N;;;;;
1028B;LYCIAN LETTER K;Lo;0;L;;;;;N;;;;;
1028C;LYCIAN LETTER Q;Lo;0;L;;;;;N;;;;;
1028D;LYCIAN LETTER L;Lo;0;L;;;;;N;;;;;
1028E;LYCIAN LETTER M;Lo;0;L;;;;;N;;;;;
1028F;LYCIAN LETTER N;Lo;0;L;;;;;N;;;;;
10290;LYCIAN LETTER MM;Lo;0;L;;;;;N;;;;;
10291;LYCIAN LETTER NN;Lo;0;L;;;;;N;;;;;
10292;LYCIAN LETTER U;Lo;0;L;;;;;N;;;;;
10293;LYCIAN LETTER P;Lo;0;L;;;;;N;;;;;
10294;LYCIAN LETTER KK;Lo;0;L;;;;;N;;;;;
10295;LYCIAN LETTER R;Lo;0;L;;;;;N;;;;;
10296;LYCIAN LETTER S;Lo;0;L;;;;;N;;;;;
10297;LYCIAN LETTER T;Lo;0;L;;;;;N;;;;;
10298;LYCIAN LETTER TT;Lo;0;L;;;;;N;;;;;
10299;LYCIAN LETTER AN;Lo;0;L;;;;;N;;;;;
1029A;LYCIAN LETTER EN;Lo;0;L;;;;;N;;;;;
1029B;LYCIAN LETTER H;Lo;0;L;;;;;N;;;;;
1029C;LYCIAN LETTER X;Lo;0;L;;;;;N;;;;;

```

## Figures for Lycian

### LYKISCH.

Zeichen	Wert	Zeichen	Wert	Zeichen	Wert
𐌱 𐌲	a	𐌱	y	𐌲	t
𐌳 𐌴	b	𐌳 𐌴 𐌵 𐌶	k	𐌷 𐌸 𐌹	v
𐌷	g	𐌸 𐌹	l	𐌺 𐌻 𐌼 𐌽	kh
𐌻 𐌼	d	𐌻 𐌼	m	𐌾 𐌿 𐍀 𐍁 𐍂 𐍃	o
𐌾 𐌿	i	𐌿 𐍀 𐍁 𐍂 𐍃	n	𐍄 𐍅 𐍆 𐍇 𐍈 𐍉	w
𐌿	v	𐍀	u	𐍊 𐍋	th
𐍀	dz	𐍁 𐍂 𐍃 𐍄 𐍅	p	𐍆	ah
𐍁 𐍂	e	𐍆 𐍇	r	𐍈	ih
𐍃	h	𐍇 𐍈	s	𐍉	

Das vorstehende Alphabet ist entnommen aus J. SAVELSBERG's Beiträgen zur Entzifferung der lykischen Sprachdenkmäler. Die Schreibweise bekannter griechischer Namen weist eine eigene Orthographie auf, z. B. 𐌱𐌳𐌳𐌳𐌲𐌵𐌶𐌷 *Harpagus*, 𐌱𐌳𐌴𐌵𐌶𐌷𐌸 *Apollonidas*, 𐌱𐌳𐌴𐌵𐌶𐌷𐌸 *Sidarios*, 𐌱𐌳𐌴𐌵𐌶𐌷𐌸 *Hrpyi*, 𐌱𐌳𐌴𐌵𐌶𐌷𐌸 *Dauasa*, 𐌱𐌳𐌴𐌵𐌶𐌷𐌸 *Nra*

*Hekatomnas*. Es dürfte diese Schreibart noch aus jener Zeit stammen, die der Fixirung eines Alphabets voranging; wir finden eine ähnliche Orthographie in den iberischen Münzinschriften, deren Zeichen wir hier nach PHILLIPS (über das iberische Alphabet, Stzb. d. k. Akad. d. W. 1870, LXV, II) folgen lassen.

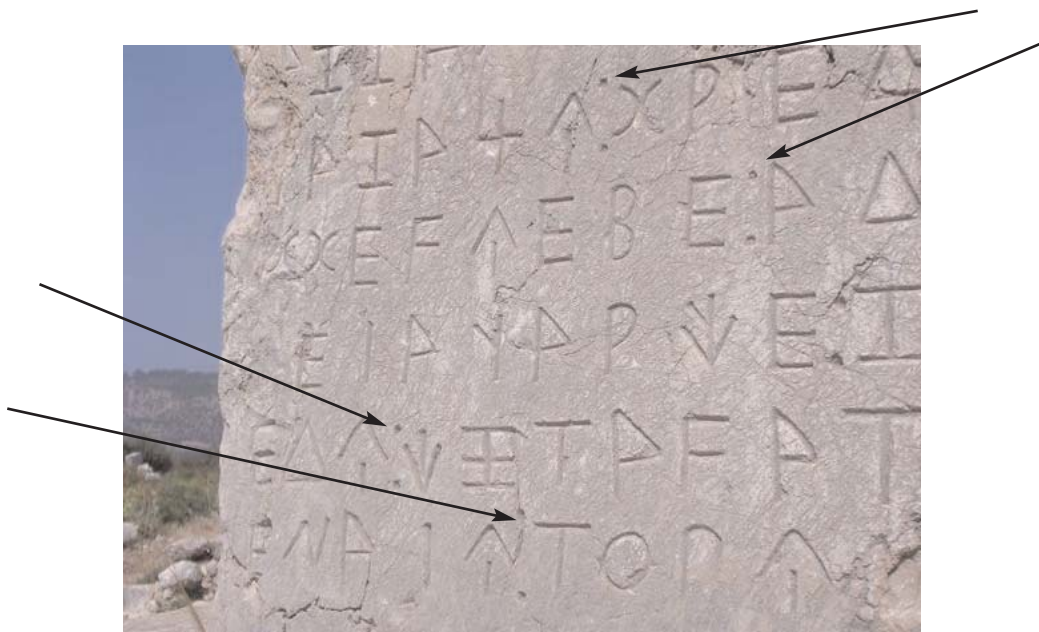
Figure 2. Table of Lycian letters from Faulmann 1990 (1880).



**Table 21.1 The Lycian alphabet**

Character	Transcription
ⲡ	a
ⲑ	e
Ⲕ ⲕ	b (/β/)
ⲗ	β (/k <sup>w</sup> /?)
Ⲙ ⲙ	g (/γ/)
Ⲏ	d (/ð/)
Ⲑ	i
ⲑ	w
ⲓ	z (/tʰ/)
ⲕ	θ
Ⲍ	y
Ⲏ	k (/k</)
ⲏ	q (/k/)
Ⲑ	l
ⲑ	m
Ⲓ	n
ⲓ	ṁ (/m <sup>̣</sup> /)
Ⲕ	ṅ (/n <sup>̣</sup> /)
ⲕ	u
Ⲏ	p
ⲏ	(≈ /k</?)
Ⲑ	r
ⲑ	s
Ⲓ	t
ⲓ	τ (/c/)
Ⲕ ⲕ ⲗ Ⲙ	ā
ⲕ ⲗ Ⲙ ⲙ	ē
ⲕ	h
Ⲏ ⲏ Ⲑ	x (/k>/)

**Figure 5.** Table of Lycian letters from Melchert 2004b.



**Figure 6.** Lycian text from the Pillar of Kerei, Xanthus, near what is now Fethiye in southwest Turkey. Taken from a photo by Marcus Prins, [www.livius.org/a/turkey/xanthus/xanthus.html](http://www.livius.org/a/turkey/xanthus/xanthus.html).

U+205A TWO DOT PUNCTUATION can be seen in use here.

# Lydian

The ancient Indo-European language Lydian used in Western Anatolia is written with a script of the same name. While the language is attested from inscriptions and coins the end of the eighth century (or beginning of the seventh) until the third century BCE, longer well-preserved inscriptions date to the fifth and fourth centuries BCE. Most of the inscriptions have been found in or around Sardis, the capital of ancient Lydia (modern Sart in central west Turkey, near Turgutlu). The content of the texts is sepruchal and legal, but there are also some texts in verse.

## Processing of Lydian

Lydian is a simple alphabetic script, probably derived from an East Greek alphabet. It is interesting to note that there was probably contact with other scripts: 8 LYDIAN LETTER F is probably related to U+1031A OLD ITALIC LETTER EF, and Ϙ LYDIAN LETTER Y is possibly related to Ϙ CARIAN LETTER I. The vast majority of Lydian texts have right-to-left directionality; a very few texts are left-to-right and one is boustrophedon. Right-to-left is the default for Lydian. Most Lydian texts use U+0020 SPACE as a word-divider. As of 1964 only one text written in *scriptio continua* had been found; U+200B ZERO-WIDTH SPACE can be used to mark breaks in such a context. Gusmani 1964 also notes that “dots” separate the words in one text: The recommended word dividers for this usage are : U+003A COLON and · U+00B7 MIDDLE DOT. Finally, a unique triangular separator is attested, and proposed for encoding here; Gusmani states that it “entspricht unseren Anführungsstrichen”, or ‘corresponds to our quotation marks’.

## Unicode Character Properties for Lydian

- 10920;LYDIAN LETTER A;Lo;0;R;;;;N;;;;;
- 10921;LYDIAN LETTER B;Lo;0;R;;;;N;;;;;
- 10922;LYDIAN LETTER G;Lo;0;R;;;;N;;;;;
- 10923;LYDIAN LETTER D;Lo;0;R;;;;N;;;;;
- 10924;LYDIAN LETTER E;Lo;0;R;;;;N;;;;;
- 10925;LYDIAN LETTER V;Lo;0;R;;;;N;;;;;
- 10926;LYDIAN LETTER I;Lo;0;R;;;;N;;;;;
- 10927;LYDIAN LETTER Y;Lo;0;R;;;;N;;;;;
- 10928;LYDIAN LETTER K;Lo;0;R;;;;N;;;;;
- 10929;LYDIAN LETTER L;Lo;0;R;;;;N;;;;;
- 1092A;LYDIAN LETTER M;Lo;0;R;;;;N;;;;;
- 1092B;LYDIAN LETTER N;Lo;0;R;;;;N;;;;;
- 1092C;LYDIAN LETTER O;Lo;0;R;;;;N;;;;;
- 1092D;LYDIAN LETTER R;Lo;0;R;;;;N;;;;;
- 1092E;LYDIAN LETTER SS;Lo;0;R;;;;N;;;;;
- 1092F;LYDIAN LETTER T;Lo;0;R;;;;N;;;;;
- 10930;LYDIAN LETTER U;Lo;0;R;;;;N;;;;;
- 10931;LYDIAN LETTER F;Lo;0;R;;;;N;;;;;
- 10932;LYDIAN LETTER Q;Lo;0;R;;;;N;;;;;
- 10933;LYDIAN LETTER S;Lo;0;R;;;;N;;;;;
- 10934;LYDIAN LETTER TT;Lo;0;R;;;;N;;;;;
- 10935;LYDIAN LETTER AN;Lo;0;R;;;;N;;;;;
- 10936;LYDIAN LETTER EN;Lo;0;R;;;;N;;;;;
- 10937;LYDIAN LETTER LY;Lo;0;R;;;;N;;;;;
- 10938;LYDIAN LETTER NN;Lo;0;R;;;;N;;;;;
- 10939;LYDIAN LETTER C;Lo;0;R;;;;N;;;;;
- 1093F;LYDIAN QUOTATION MARK;Po;0;R;;;;N;;;;;

## Figures for Lydian



Figure 7. Lydian text from the Lydian-Aramaic bilingual, taken from Jost Gippert’s TITUS project [titus.fkidg1.uni-frankfurt.de/didact/idg/anat/lydbeisp.htm](http://titus.fkidg1.uni-frankfurt.de/didact/idg/anat/lydbeisp.htm).

Das lydische Alphabet  
und die verschiedenen Transkriptionen

I	II	III	IV	V
A	a	a	a	
M	ã	ã	ã	ã
B	b	b	b	
↑	q?		e	0, p
↓	d	d	d	
↓ ↓ ↓	e	e	e	
Y	ë	ë	ë	ë
8 8	f	f	f	
↓	g?		g	
l	i	i	i	
∅	o	ɣ	y	
κ	k	k	k	
l	l	l	l	
Y	ũ	λ	λ	l, l, L
Y	m	m	m	
Y q	n	n	u	
~ ε	é?	v	v	ú, y, N
o	o	o	o	
+	h	p	q	
q	r	r	r	
7 # I	s	s	s	
γ ↘ ξ	ś	ś	ś	
T	t	t	t	
W	ñ	τ	τ	δ
Y	u	u	u	
4	v	v	v	

Erläuterung: I Lydische Schriftzeichen mit Varianten; II Transkription bei Littmann; III Transkription bei Buckler und Friedrich; IV Transkription in dem vorliegenden Wörterbuch; V Weitere häufig gebrauchte Transkriptionen.

**Figure 8.** Table of Lydian letters with transliterations from Gusmani 1964.

TABLE 22.8: *The Lydian Alphabet*

A	a
B	b
↓	d
↓ ↓ ↓	e
↓	v
l	i
∅	y
κ	k
l	l
Y	m
Y q	n
o	o
q	r
7 # I	s
γ ↘ ξ	ś
T	t
Y	u
8 8	f
+	q
M	ã
W	τ
Y	ë
Y	λ
~ ε	v
↑	c
↓	g

**Figure 9.** Table of Lydian letters from Swiggers & Jenniges 1996.

LYDIAN-GREEK BILINGUALS

ἸἸἸἸἸἸἸ ἸἸἸἸἸἸἸἸ ἸἸἸἸἸἸἸ  
 NANNASΔΙΟΝΥΣΙΚΛΕΟΣΑΡΤΕΜΙΔΙ

lumitra silavikab šannan←

*Lydian:* nannaš bakivalis artimuł  
*Greek:* NANNAS ΔΙΟΝΥΣΙΚΛΕΟΣ ΑΡΤΕΜΙΔΙ  
*Gloss:* Nannas the.one.of.Bakiva to.Artemis

'Nannas, the son of Bakiva (i.e. Bacchus/Dionysus) (dedicates this statue) to Artemis.'  
 —From Sardis (Gusmani 1964–86, no. 20).

ἸἸἸἸἸἸ ἸἸἸἸἸἸ ἸἸἸἸἸἸ  
 ἸἸἸἸἸἸἸἸ ἸἸἸἸἸἸἸἸ  
 ΠΑΡΤΑΡΑΣ  
 ΑΘΗΝΑΙΗ

livcav caat vsv←  
 titaš šaratrab←

*Lydian:* vsv taac vacvil bartaraš šatit  
*Greek:* ΠΑΡΤΑΡΑΣ ΑΘΗΝΑΙΗ  
*Gloss:* this statue/pillar(?) to.Acvi Bartara has.built

'Bartara has built this statue/pillar to Asni(?) (= Athena).'  
 —From Pergamon (Gusmani 1964–86, no. 40; Neumann 1967; Gusmani 1986a).

Figure 10. Sample of Lydian text from Swiggers & Jenniges 1996.

Character	Transcription
Α	a
β	b
γ	g
δ	d (/ð/)
ε	e
ν	v
ι	i
ϝ	y
κ	k
λ	l
μ	m
ν	n
ο	o
ρ	r
σ ζ ς	š (/s/)
τ	t
υ	u
φ	f
ψ	q (/kʷ/)
χ ϝ	s (/ç/)
ξ	τ (/tʰ/)
Μ	ā
Υ	ē
Ψ	λ
Ϻ	ν
↑	c (/dʰ/?)

Figure 11. Table of Lydian letters from Melchert 2004c.



~~vāstē~~ n̄lis qasaas<sup>14</sup> nām qid kot ałtokad akmlad<sup>15</sup> s̄lēcad  
 qirad ▶ is̄qkum qardołev<sup>16</sup> řacasıdν řakum ān isłodał  
<sup>17</sup> alarum kaštałev kud nak<sup>18</sup> ēnas̄ amās̄ qedm̄ bis̄ ētamν  
 unadν<sup>19</sup> ak ebad inānidν řřarvad<sup>20</sup> ak cēnu ēnak taadak  
 sıvetris̄ santoł.<sup>201</sup> T<sup>21</sup> řas̄ısa malār nak kim ās̄

**Figure 12.** Sample of transliterated Lydian text from Gusmani 1964, showing the LYDIAN QUOTATION MARK in use with Latin script.

30, Terrakottavase, in Sardes gefunden („in a square chamber-tomb crushed in and filled with earth on the eastern slope of the Nekropolis hill“).  
<sup>1</sup> řiřis̄ın : ēmν · řıřarđν : řabil<sup>2</sup> atał · řıtvał

Ergänzungen nach Z. 1 und nach dem Vorbild anderer Grabinschriften. Z. 4: hinter řm̄trus vier schwer lesbare Zeichen (nach Buckler ř.ř. oder ř.ř., nach Elderkin II, 391 řm̄ł); sa[đm̄ē]ł nach Z. 3 ergänzt; in ařřlavas̄ statt ř auch ř, statt ř auch ř möglich; vielleicht vis̄[śis̄]?? (s. im Wörterbuch).

27 (= B. 27, F. 27) Über Z. 1 Spuren einer abgebrochenen Zeile. Z. 1: ř und ř unsicher (auch ř bzw. ř wären möglich). Z. 2: statt ř vielleicht auch ř möglich. Z. 3: [řil]ev (vgl. 24,5) ??

28 (= L. S. 66, B. 28, F. 28) Statt ř auch ř möglich.

29 (= B. 29, F. 29) Da es sich um eine Stele handelt, wäre die Ergänzung [m̄]ud (Buckler) denkbar.

30 (= L. 13, B. 30, F. 30) Boustrophedon geschrieben (erste Zeile rechtsläufig, zweite linksläufig). ř und ř haben eine seltene Form, vgl. S. 20. Die Punkteben sind Worttrennungszeichen.

**Figure 13.** Sample of transliterated Lydian text from Gusmani 1964, showing the COLON and MIDDLE DOT.

### Bibliography for the Lycian and Lydian scripts

Carruba, O. 1978. “La scrittura licia”, in *Annali della scuola normale superiore di Pisa, classe di letter e filosofia*. 3rd series. 8:849-867.  
 Faulmann, Carl. 1990 (1880). *Das Buch der Schrift*. Frankfurt am Main: Eichborn. ISBN 3-8218-1720-8  
 Gusmani, Roberto. 1964. *Lydisches Wörterbuch mit grammatischer Skizze und Inschriftensammlung*. Heidelberg: Carl Winter.  
 Melchert, H. Craig. 2004b. “Lycian”, in *The Cambridge encyclopedia of the world’s ancient languages*, ed. Roger Woodard, 591-600. Cambridge: Cambridge University Press.  
 Melchert, H. Craig. 2004c. “Lydian”, in *The Cambridge encyclopedia of the world’s ancient languages*, ed. Roger Woodard, 601-608. Cambridge: Cambridge University Press.  
 Swiggers, Pierre, & Wolfgang Jenniges. 1996. “The Anatolian alphabets”, in *The World’s Writing Systems*, ed. Peter T. Daniels & William Bright. New York; Oxford: Oxford University Press. ISBN 0-19-507993-0

### Acknowledgements

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**TABLE XX - Row 102: LYCIAN**

	1028	1029
0	𐌲	𐌸
1	𐌶	𐌺
2	𐌴	𐌶
3	𐌮	𐌲
4	𐌴	𐌶
5	𐌶	𐌲
6	𐌺	𐌸
7	𐌴	𐌶
8	𐌶	𐌸
9	𐌸	𐌺
A	𐌶	𐌸
B	𐌴	𐌶
C	𐌸	𐌺
D	𐌶	
E	𐌮	
F	𐌶	

G = 00  
P = 01

**TABLE XX - Row 102: LYCIAN**

hex	Name	hex	Name
80	LYCIAN LETTER A		
81	LYCIAN LETTER E		
82	LYCIAN LETTER B		
83	LYCIAN LETTER BH		
84	LYCIAN LETTER G		
85	LYCIAN LETTER D		
86	LYCIAN LETTER I		
87	LYCIAN LETTER W		
88	LYCIAN LETTER Z		
89	LYCIAN LETTER TH		
8A	LYCIAN LETTER J		
8B	LYCIAN LETTER K		
8C	LYCIAN LETTER Q		
8D	LYCIAN LETTER L		
8E	LYCIAN LETTER M		
8F	LYCIAN LETTER N		
90	LYCIAN LETTER MM		
91	LYCIAN LETTER NN		
92	LYCIAN LETTER U		
93	LYCIAN LETTER P		
94	LYCIAN LETTER KK		
95	LYCIAN LETTER R		
96	LYCIAN LETTER S		
97	LYCIAN LETTER T		
98	LYCIAN LETTER TT		
99	LYCIAN LETTER AN		
9A	LYCIAN LETTER EN		
9B	LYCIAN LETTER H		
9C	LYCIAN LETTER X		
9D	(This position shall not be used)		
9E	(This position shall not be used)		
9F	(This position shall not be used)		

TABLE XX - Row 109: LYDIAN

	1092	1093
0	𐤀	𐤁
1	𐤂	𐤃
2	𐤄	𐤅
3	𐤆	𐤇
4	𐤈	𐤉
5	𐤊	𐤋
6	𐤌	𐤍
7	𐤎	𐤏
8	𐤐	𐤑
9	𐤒	𐤓
A	𐤔	
B	𐤕	
C	𐤖	
D	𐤗	
E	𐤘	
F	𐤙	𐤚

G = 00  
P = 01

**TABLE XX - Row 109: LYDIAN**

hex	Name	hex	Name
20	LYDIAN LETTER A		
21	LYDIAN LETTER B		
22	LYDIAN LETTER G		
23	LYDIAN LETTER D		
24	LYDIAN LETTER E		
25	LYDIAN LETTER V		
26	LYDIAN LETTER I		
27	LYDIAN LETTER Y		
28	LYDIAN LETTER K		
29	LYDIAN LETTER L		
2A	LYDIAN LETTER M		
2B	LYDIAN LETTER N		
2C	LYDIAN LETTER O		
2D	LYDIAN LETTER R		
2E	LYDIAN LETTER SS		
2F	LYDIAN LETTER T		
30	LYDIAN LETTER U		
31	LYDIAN LETTER F		
32	LYDIAN LETTER Q		
33	LYDIAN LETTER S		
34	LYDIAN LETTER TT		
35	LYDIAN LETTER AN		
36	LYDIAN LETTER EN		
37	LYDIAN LETTER LY		
38	LYDIAN LETTER NN		
39	LYDIAN LETTER C		
3A	(This position shall not be used)		
3B	(This position shall not be used)		
3C	(This position shall not be used)		
3D	(This position shall not be used)		
3E	(This position shall not be used)		
3F	LYDIAN QUOTATION MARK		

## A. Administrative

### 1. Title

Proposal to encode the Lycian and Lydian scripts in the SMP of the UCS

### 2. Requester's name

Michael Everson

### 3. Requester type (Member body/Liaison/Individual contribution)

Individual contribution.

### 4. Submission date

2006-01-12

### 5. Requester's reference (if applicable)

#### 6. Choose one of the following:

##### 6a. This is a complete proposal

Yes.

##### 6b. More information will be provided later

No.

## B. Technical – General

### 1. Choose one of the following:

#### 1a. This proposal is for a new script (set of characters)

Yes: three.

#### Proposed name of script

Lycian and Lydian.

#### 1b. The proposal is for addition of character(s) to an existing block

No.

##### 1b. Name of the existing block

#### 2. Number of characters in proposal

56 (Lycian 29, Lydian 27).

#### 3. Proposed category (see section II, Character Categories)

Category C

#### 4a. Proposed Level of Implementation (1, 2 or 3) (see clause 14, ISO/IEC 10646-1: 2000)

Level 1.

#### 4b. Is a rationale provided for the choice?

Yes.

#### 4c. If YES, reference

Spacing characters are proposed.

#### 5a. Is a repertoire including character names provided?

Yes.

#### 5b. If YES, are the names in accordance with the character naming guidelines in Annex L of ISO/IEC 10646-1: 2000?

Yes.

#### 5c. Are the character shapes attached in a legible form suitable for review?

Yes.

#### 6a. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?

Michael Everson. TrueType.

#### 6b. If available now, identify source(s) for the font (include address, e-mail, ftp-site, etc.) and indicate the tools used:

Michael Everson, Fontographer.

#### 7a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?

Yes, see bibliography above.

#### 7b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?

Yes.

#### 8. 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, see above.

#### 9. 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.

Yes, see Unicode properties above.

## C. Technical – Justification

### 1. Has this proposal for addition of character(s) been submitted before? If YES, explain.

Yes. This proposal completes and replaces N2939 and N2940.

### 2a. 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.

**2b. If YES, with whom?**

Craig Melchert, University of North Carolina, Chapel Hill; Deborah Anderson, University of California, Berkeley.

**2c. If YES, available relevant documents**

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

Scholarly communities researching Anatolian languages using these scripts.

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

Anatolian scripts are fairly rare as these things go.

**4b. Reference**

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

Yes.

**5b. If YES, where?**

By scholars worldwide.

**6a. After giving due considerations to the principles in Principles and Procedures document (a WG 2 standing document) must the proposed characters be entirely in the BMP?**

No.

**6b. If YES, is a rationale provided?**

**6c. If YES, reference**

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

Yes, each of the scripts should be encoded in individual blocks as presented here.

**8a. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?**

No.

**8b. If YES, is a rationale for its inclusion provided?**

**8c. If YES, reference**

**9a. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?**

No.

**9b. If YES, is a rationale for its inclusion provided?**

**9c. If YES, reference**

**10a. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character?**

No.

**10b. If YES, is a rationale for its inclusion provided?**

**10c. If YES, reference**

**11a. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)?**

No.

**11b. If YES, is a rationale for such use provided?**

**11c. If YES, reference**

**12a. Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?**

No.

**12b. If YES, reference**

**13a. Does the proposal contain characters with any special properties such as control function or similar semantics?**

No.

**13b. If YES, describe in detail (include attachment if necessary)**

**14a. Does the proposal contain any Ideographic compatibility character(s)?**

No.

**14b. If YES, is the equivalent corresponding unified ideographic character(s) identified?**

**14c. If YES, reference**