

To: Script Ad Hoc and Unicode Technical Committee

From: Gabrielle Vail, Research Collaborator, UNC Chapel Hill and Research Associate, Script Encoding Initiative

RE: Preliminary Classic Maya Syllabary and List of Classic Maya Signs

Date: December 8, 2022

Preliminary List of Classic Maya Signs and Syllabary

The preliminary list of Classic Maya signs and the syllabary include representative examples of signs (also termed “glyphs”) from hieroglyphic texts selected for inclusion in the Classic Maya Text Repository (CMTR) from the Western, Central, and Southern Maya regions (see list of sites in Table 1). The Classic Maya Text Repository, funded in part by a Level 2 Digital Humanities Advancement Award from the National Endowment for the Humanities (HAA-268887-20), led to the creation of a repository for Classic (ca. 250-900/1000 CE) and Late Postclassic (ca. 1250-1520 CE) Maya hieroglyphic texts in the form of line drawings, rubbings, and photographs. These are stored in Mayan-READ, an online open-access virtual research environment that enables visual and annotated collections of ancient texts to be effectively managed, accessed, disseminated, researched, and preserved over the long term. Building on prior work sponsored by the Script Encoding Initiative/Universal Scripts Project at UC Berkeley and the Unicode Consortium and funded in part by NEH awards, the project team worked with a subset of the texts in the repository to (1) prepare an illustrated dictionary of Late Classic period glyphs from the Western, Central, and Southern Maya regions, and (2) prepare drawings of approximately 60% of each unique glyph represented in those texts, as a preliminary step towards developing a font of Classic Maya glyphs that will be incorporated into a proposal to the Unicode Consortium to allow Maya hieroglyphs to be included in the Unicode Standard.

Table 1. Sites included in the CMTR.

Central region: Caracol, Naranjo, Tikal

Western region: Palenque, Piedras Negras, Tonina, Yaxchilan

Southern region: Copan, Quirigua

Background

Work funded in part by NEH grant PR-253360-17 (June 2016-present; Deborah Anderson, PI) resulted in the development of a glyphary (illustrated glyph dictionary) for the Maya screenfold codices through the collaborative efforts of Andrew Glass and Carlos Pallán (see list of Project Personnel below). Under the auspices of our Digital Humanities Advancement award, we extended the original Codical Glyphary to support a parallel database of Classic Maya glyphs.

The Maya script is based on a logosyllabic system. Signs can have a purely syllabic (consonant-vowel, or CV) value; a logographic value, consisting of a CVC(VC) form; or both. Some logographs have a calendrical function, such as naming a day (one of twenty) in the 260-day *tzolk'in* calendar, or a “month” in the 365-day *ha:b'* calendar.

The two classes of signs are included under separate headings in the sign list—Syllabograms and Logograms. Note that the same sign, designated by a three-letter code and a “v” (variant) number (assigned based on Macri and Looper 2003), may occur in both lists, if the sign in question has both a syllabic and logographic reading. An example includes ZC1 (v1 and v2), which has the CV value **ku** and the logographic values TU:N and SIHO:M.

Conventions used in the tables that follow include:

- CV signs are transcribed in lowercase, and logograms in uppercase.
- Glottal stops are represented by an apostrophe. They are not included for syllables that begin with a glottal stop followed by a vowel (i.e., the syllable 'a is written as **a**, 'e as **e**, etc.).
- Long vowels (e.g., VV or Vh) are written as V: in the column indicating Phonetic Value. They are written as VV or Vh in the Gloss column (except for *ha:b'*, which retains the V: spelling).

The Classic glyph set is based on the coding conventions developed by Macri and Looper (2003; see also Looper et al. 2021, Macri and Vail 2009) but is also extensively cross-referenced to other cataloging schemes such as that developed by Eric Thompson (1962) and the more recent sign list of Alexandre Tokovinine (2017), as well as “photocat” numbers generated for the NcodeX Project directed by Carlos Pallán.

Tables

The syllabary is arranged in a grid format, with the vowels represented across the tops of the columns, and the consonants down the first column, marked “Onset.” As noted above, the glottal stop is not represented but corresponds to the second row of the table.

For the sign list, the column headings include:

IDX (index): the sort order based on alphabetizing according to phonetic value.

Phonetic value: the syllabic or logographic rendering of the sign (see above for further details)

Code: based on the system developed by Martha Macri, Matthew Looper, and colleagues (Macri and Looper 2003; Macri and Vail 2009; Looper et al. 2021)

Sign: representative signs were chosen from the texts prepared for the CMTR and drawn by team members Maximillian Mermell and Céline Tamignaux. Only a subset of all of the signs were drawn, based on the funding available. Additional funding will be required for a new phase to include those remaining.

Gloss: this field includes the English translation of the logographic value, as well as information pertaining to calendrical and/or grammatical function.

Project Team

Research for the Classic Maya sign list and syllabary was undertaken by Holly Maxwell, Céline Tamignaux, and Gabrielle Vail, based on a dataset initially developed by Carlos Pallán. The Classic “glyphary” was created by repurposing the Codical Glyphary READ plugin developed by Andrew Glass with data and drawings contributed by Carlos Pallán.

Gabrielle Vail served as the Principal Investigator for the Classic Maya Text Repository project. Contributors during the grant period (February 2019 to July 2021) included:

- Project Collaborator/Research Associate: Carlos Pallán (University of Bonn)
- Technical Consultants: Andrew Glass (Microsoft); Stephen White (Università Ca’ Foscari di Venezia); William Giltinan (independent consultant)
- Research Assistants: Holly Maxwell (SUNY Albany); Céline Tamignaux (University of Bonn)
- Research Associate (Hazen fellowship): Ashley Burke (independent consultant)
- Advisors: Debbie Anderson (UC Berkeley); Christine Hernández (Tulane University); Lisa Moore (Unicode)
- Graphics Artists: Maximillian Mermell (independent consultant)

Continued project work (September 2021 to present) has been undertaken by Andrew Glass, Holly Maxwell, Maximillian Mermell, Gabrielle Vail, and Stephen White. Advisors have included Debbie Anderson, Christine Hernández, and William Giltinan.

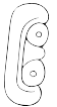
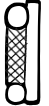
Project Funding

The project was funded in part by a Digital Humanities Advancement Grant (HAA-268887-20) from the National Endowment for the Humanities; two Adopt-a-Character grants from the Unicode Consortium (AAC-Mayan-2019 and -21), and a Dan C. Hazen Fellowship from SALALM (Seminar for the Acquisition of Latin American Library Materials). SEI work on Maya hieroglyphs has received support from NEH grant PR-253360-17 and PR-268710-20 through the Universal Scripts Project at UC Berkeley. Any views, findings, conclusions, or recommendations expressed in this report do not necessarily represent those of the National Endowment for the Humanities, the Unicode Consortium, SALALM, or any of the partner institutions.

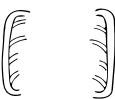
References Cited

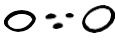
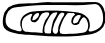
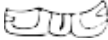
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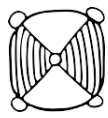
Syllabary

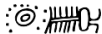
Onset	a	e	i	o	u	
	 AL2v1	 AA7v1	 BV8v1	 BT1v2	 AA4v1	 AA4v2
	 BP1v1		 YM1v1	 BT1v3	 AMFv1	 AT8v1
	 BP3v1		 YM1v2	 BT1v4	 HE6v1	 HE6v3
	 1G4v1				 HE6v5	 PC7v1
					 PE5v2	 YG2v1

b'	 AP9v1  XE1v1  XE1v2		 AC6v2  XGEv1	 HM1v1	 YSBv1
ch		 1B7v1	 MR7v1  SC9v1	 HJ1v1	 ZY9v1
ch'	 2G2v2				
h	 SC3v1	 ZU8v1	 32Kv2  32Kv3		

j	 ZU1v1  ZU1v2  ZU1v2	 33Bv1	 APCv1  1M1v1  33Fv1	 MZ4v1  SN8v1  ZUFv1	
k	 AA1v1  AA1v2  AA1v3  AA2v1	 MZA v1	 1B2v1	 1BA v1	 ZC1v1  ZC1v2
k'	 MZ3v2  2S6v1	 ZY8v1	 AM2v1  BM2v1	 MZPv1  ZC8v1	 BP7v1  22Bv2

I	 AMBv1  AMBv2  AMBv2	 1SCv1	 1M4v1  1SBv1	 XGA v1	 ZUGv1  ZUGv2
m	 XE3v1  32Av1  32Av2  32Uv1  33Kv1		 MR3v1  PM7v1  ZQ4v1	 BP4v1  BP5v1  BP5v2	 YSAv1  YSAv2

n	 1G1v1  1G2v1  1G2v2  1G2v3	 1S3v2	 1S2v1  1S2v2	 ZD2v1  ZD2v2	 3M9v1  22Fv1  22Fv2
p	 XD1v1  XD1v2  2S7v1	 AP7v1	 SB1v1  ZC5v2  ZC5v3	 XG3v2	
s	 PM1v1  XV4v1	 XS3v1  XS3v2	 3M6v1		 1B3v1

t	 SCGv1  XQBv1  YM2v1  1B1v2  1B1v3  3M3v1		 BV3v1  3M2v1	 33Av1  33Av2	 3M4v1
t'					 XE4v1

tz	 ZZAv1		 XH5v1  XH5v4  32Jv1		
tz'	 XQ7v1  3M7v1		 APMv1  XV1v1	 ZZ8v1	 AA3v1
w	 ACKv3  2S2v1  PX3v2		 1S1v1	 1SFv1	
x	 XG4v1			 AM6v1	

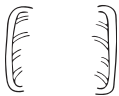
y	 SCJv1  32Mv1	 MZRv1	 ZUHv1  ZUHv4	 1SAv1	 32Dv1
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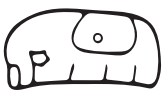
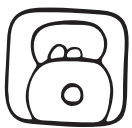
Syllabograms

IDX	Phonetic value	Sign	Code (Macri et al.)
1	a		1G4v1
2	a		BP3v1
3	a		BP1v1
4	a		AL2v1
5	b'a		AP9v1
6	b'a		XE1v2
7	b'a		XE1v1
8	b'i		XGEv1
9	b'i		AC6v2
10	b'o		HM1v1
11	b'u		YSBv1

12	che		1B7v1
13	chi		MR7v1
14	chi		SC9v1
15	cho		HJ1v1
16	chu		ZY9v1
17	ch'a		2G2v2
18	e		AA7v1
19	ha		SC3v1
20	he		ZU8v1
21	hi		32Kv2
22	hi		32Kv3
23	i		YM1v1
24	i		YM1v2

25	i		BV8v1
26	ja		ZU1v2
27	ja		ZU1v2
28	ja		ZU1v1
29	je		33Bv1
30	ji		1M1v1
31	ji		33Fv1
32	ji		APCv1
33	jo		ZUFv1
34	jo		MZ4v1
35	jo		SN8v1
36	ka		AA1v2
37	ka		AA1v1

38	ka		AA1v3
39	ka?		AA2v1
40	ke		MZAv1
41	ki		1B2v1
42	ko		1BAv1
43	ku		ZC1v1
44	ku		ZC1v2
45	k'a		MZ3v2
46	k'a		2S6v1
47	k'a'		XGFv1
48	k'e		ZY8v1
49	k'i		BM2v1
50	k'i?		AM2v1

51	k'o		ZC8v1
52	k'o		MZPv1
53	k'u		22Bv2
54	k'u		BP7v1
55	la		AMBv2
56	la		AMBv2
57	la		AMBv1
58	le		1SCv1
59	li		1SBv1
60	li		1M4v1
61	lo		XGAv1
62	lu		ZUGv1
63	lu		ZUGv2

64	ma		32Av2
65	ma		32Av1
66	ma		32Uv1
67	ma		33Kv1
68	ma		XE3v1
69	mi		ZQ4v1
70	mi		PM7v1
71	mi		MR3v1
72	mo		BP5v2
73	mo		BP5v1
74	mo		BP4v1
75	mu		YSAv2
76	mu		YSAv1

77	na		1G2v1
78	na		1G2v2
79	na		1G1v1
80	na?		1G2v3
81	ne		1S3v2
82	ni		1S2v2
83	ni		1S2v1
84	no		ZD2v1
85	no		ZD2v2
86	nu		22Fv2
87	nu		22Fv1
88	nu		3M9v1
89	o		BT1v4

90	o		BT1v3
91	o		BT1v2
92	pa		XD1v1
93	pa		XD1v2
94	pa		2S7v1
95	pe		AP7v1
96	pi		ZC5v2
97	pi		ZC5v3
98	pi		SB1v1
99	po		XG3v2
100	sa		XV4v1
101	sa		PM1v1
102	se		XS3v2

103	se		XS3v1
104	si		3M6v1
105	su		1B3v1
106	ta		XQBv1
107	ta		1B1v2
108	ta		1B1v3
109	ta		YM2v1
110	ta		3M3v1
111	ta		SCGv1
112	ti		3M2v1
113	ti		BV3v1
114	to		33Av1
115	to		33Av2

116	tu		3M4v1
117	tza		ZZAv1
118	tzi		XH5v1
119	tzi		32Jv1
120	tzi		XH5v4
121	tz'a		XQ7v1
122	tz'a		3M7v1
123	tz'i		XV1v1
124	tz'i		APMv1
125	tz'o?		ZZ8v1
126	tz'u		AA3v1
127	t'u		XE4v1
128	u		AT8v1

129	u		PE5v2
130	u		HE6v3
131	u		AA4v1
132	u		HE6v5
133	u		AA4v2
134	u		AMFv1
135	u		YG2v1
136	u		PC7v1
137	u		HE6v1
138	wa		2S2v1
139	wa		ACKv3
140	wa?		PX3v2
141	wi		1S1v1

142	wo		1SFv1
143	xa		XG4v1
144	xo		AM6v1
145	ya		32Mv1
146	ya		SCJv1
147	ye		MZRV1
148	yi		ZUHv4
149	yi		ZUHv1
150	yo		1SAv1
151	yu		32Dv1

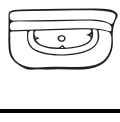
Logograms

ID	Phonetic	Sign	Code (Macri et al.)	Gloss
152	A:K		AL1v1	turtle

153	A:KAN		PE7v1	[God A']
154	A:K'AB'		XH9v1	day 3: Ak'b'al; ha:b' patron for Mol; night, darkness
155	A:L		MZE	child of mother
156	A:N		ZS7v1	carved?; famous?
157	A:N		HT1v1	visit
158	A:T		HM2v1	penis
159	AJ		1G4v1	[agentive]
160	AJ		AL2v1	[agentive]
161	AJ?		BP3v1	[agentive?]
162	AJAW		BV1v1	day 20: Ajaw; ruler, lord
163	AJAW		2M1v2	ruler; lord
164	AJAW		AM0	day 20: Ajaw; lord, ruler
165	AJAW		PT7v1	day 20: Ajaw; ruler, lord

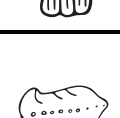
166	AJAW		2M1v1	ruler; lord
167	AK?; AKAN?		XEO	grass?, grassland?
168	AK'ACH		BMAv1	turkey
169	AT		YM2v1	in, at, on
170	AT		XQBv1	bathe?
171	B'A:H		AP9v1	head; first
172	B'A:K		SCMv1	bone; captive
173	B'A:K; JOL		SC2v1	captive; head
174	B'ALUN; B'OLON		PT9v1	nine
175	B'ALUNLAJU:N; B'OLONLAJU:N		PTCv2	nineteen
176	B'IH		XGEv1	road
177	B'IH		AC6v2	ha:b' patron for Kumk'u; road
178	B'IX		YG6v1	go away

179	B'ULUK; B'ULUCH		PE1v1	eleven
180	CHA:K		SS1v1	Chahk [God B]
181	CHAK		1B9v1	red; great
182	CHAPA:T		ACKv1	ha:b' patron for K'ank'in; centipede
183	CHI:K		APEv1	coati
184	CHIJ		MR7v1	day 7: Manik'; deer
185	CHIT?		XGA v1	?
186	CHOK		MZSv1	scatter
187	CHUM		HT8v1	sit
188	CHUWEN?		XS3v1	day 11: Chuwen; artist?
189	CHUWEN?		ZE2v1	artist?
190	CH'A:B'		PTCv1	do penance?
191	CH'A:B'		ZYCv1	do penance

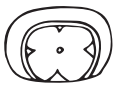
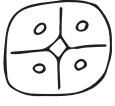
192	CH'AJO:M		PH8v1	scatterer, censer
193	CH'AK		2M7v1	cut, chop
194	CH'E:N		BT6v2	cave?, well?; town?
195	CH'E:N?		HH2v5	cave?, well?; town?
196	CH'ICH'?		ZZ1v1	blood?
197	CH'OK		HE5v1	unripe, youth
198	E:K'		ZQDv3	star, planet, Venus
199	EL		ZVEv1	to burn
200	HA:B'		XH2v1	period: 360 days (tun), 365 days (ha:b'); year
201	HA:B'		SB4v1	period: 360 days (tun); year
202	HA:B'		SS8v1	period: 360 days (tun), 365 days (ha:b'); year
203	HA'; HA'AL		XE2v1	water
204	HIX		AT7v1	day 14: Hix; jaguar

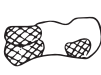
205	HO'		PT5v1	five
206	HO'LAJU:N		PTCv1	fifteen
207	HU:L		1SJv1	Glyph G8; to arrive
208	HU:L		MRAv2	arrive
209	HU:L		32Ev1	to arrive
210	HU:N		SSCv1	headband; paper, book
211	HU:N		XS2v1	headband; paper, book
212	HUXLAJU:N		SS4v1	thirteen
213	I:K'		XQ6v2	day 2: Ik'; ha:b' patron for Mak; wind, breath
214	I:K'		XQ6v1	day 2: Ik'; ha:b' patron for Mak; wind, breath
215	I:K'		XG8v1	black
216	I:K'		PT3v1	day 2: Ik'; wind, breath
217	I:K'IN		XQ5v2	part of Glyph G9; darken

218	I:K'IN		XQ5v1	part of Glyph G9; darken
219	ICH		HT5v1	front, in the presence of?
220	ITZAM KOKA:J?		SSDv1	Itzam Kokaaj?
221	ITZAM?		PT4v1	Itzam? (God N)
222	JAL?		ZQ9v1	weave?
223	JALAL?		ZZ8v1	spear thrower?
224	JAN		BT7v1	part of glyph G3; flower
225	JU:N		PC1v1	one
226	JU:N		MBAv1	one
227	JUB'		AA6v1	conch shell
228	JUKUB'?		ZVFv1	canoe
229	KA:J?		XG2v1	town?
230	KA:J?		XG2v2	town?

231	KA:N; CHAN		AC6v1	day 5: Chikchan; ha:b' patron for Sak; snake
232	KAB'?		YS1v1	Day 17: Kab'an
233	KAL?; KALOM?		SS2v1	[royal title]
234	KAL?; KALOM?-TE'		ZX3v1	[royal title]
235	KAM		SCCv1	die
236	KAN; CHAN; K'I:N		SN4v1	four; day, sun
237	KANLAJU:N; CHANLAJU:N		SN0	fourteen
238	KA'AN; CHAN		XH3v1	sky
239	KIMI		SC1v1	day 6: Kimi
240	KOJ?		AT4v1	puma?
241	KOKA:J?		SSDv2	[Itzam] Kokaaj?
242	KOKAN?		AA5v1	spine?
243	K'A:B'A'		ZE1v1	name

244	K'A:K'		2S6v1	fire
245	K'A:K'		2S6v2	fire
246	K'A:K'		2S6v3	fire
247	K'AL?		MR2v1	close, tie, bind
248	K'AL?		ZZ1v3	?
249	K'AM; CH'AM		MZDv1	take; receive
250	K'AN		XQ1v1	yellow; ripe
251	K'AN		XQ1v2	yellow; ripe
252	K'AWI:L		SSFv2	K'awiil
253	K'EK'EN?		AX2v1	peccary
254	K'EW?		AT6v1	pelt, skin
255	K'I:N		AMKv1	period: 1 day (k'in); day, sun
256	K'I:N?		XQ3v2	ha:b' patron for Yaxk'in; sun?, day?

257	K'IN		XQ3v1	period: 1 day (k'in); ha:b' patron for Yaxk'in; sun, day
258	K'INICH; K'IN		SN3v1	sun-faced/sun-eyed; sun [god]
259	K'INICH; K'IN		SN3v1	sun-faced/sun-eyed; sun [god]
260	K'UH		AMCv2	god, holy
261	K'UH		AMCv3	god; holy
262	K'UK'		BP7v1	quetzal
263	LAJU:N		SC1v1	ten
264	LAK		ZVCv1	plate
265	LAKAM		ZS8v1	large; banner?
266	LAMBAT?		ZQDv4	day 8: Amat; ha:b' patron for Yax
267	LAMBAT?		ZQDv1	day 8: Amat; ha:b' patron for Yax
268	LE:M?		1M2v1	shining?
269	LOK'		AC3v1	leave; emerge

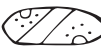
270	MAK		AL3v2	turtle?; cover
271	MAM		BVDv1	grandfather, grandson
272	MAN		ACLv1	day 5: Chikchan; ?
273	MAN		ACLv2	?
274	MAT		BM7v1	double-crested cormorant
275	MAY?		AV7v1	tobacco?
276	MIH		ZQ4v1	zero
277	MIH		PM7v1	zero
278	MIJIN		AM4v1	child of father
279	MIN?		ACBv1	ha:b' patron for Sip; part of Glyph X3b; ?
280	MOK?		AM1v1	day 20: Ajaw; maize ear?
281	MOK?		AM1v2	maize ear?
282	MO'		BP5v2	macaw

283	MO'		BP4v1	macaw
284	MO'		BP5v1	macaw
285	MUK		SCFv1	to bury
286	MUT?		HB1v3	braid?; bundle?
287	MUWA:N		BT2v1	ha:b' period: Muwan; hawk?
288	MUYAL		XGKv1	cloud
289	NA:B'		XG7v1	waterlily; lake
290	NA:B'		2S3v2	waterlily; lake
291	NA:B'		SCAv1	waterlily; lake
292	NA:B'?		XQ9v1	waterlily?; lake?
293	NA:H		1G2v3	building, house; first
294	NA:H		1G2v2	building, house; first
295	NA:H		1G2v1	building, house; first

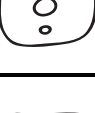
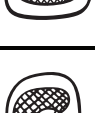
296	NAL		2S1v1	maize; place
297	NAL; WAXAK		2S1	maize, place; eight
298	NIK; NIKTE'		XQ2v1	flower, plumeria
299	NOHOL?		ZUKv1	south
300	NUM		AC1v1	pass
301	NUN?		3M9v2	?
302	O:K		AP5v1	day 10: Ok; dog; foot, footstep
303	O:L		XH4v3	heart
304	O:L; WA:J		XH4v1	day 4: K'an; heart; tamale, tortilla
305	O:X; HUX		PT3v1	three
306	OCH		MRCv1	enter
307	OCH		MZ6v1	enter
308	OCH		ACNv1	enter

309	OCH		MZ7v1	enter
310	OTO:T		ZY5v1	house; dwelling
311	OTO:T		ZY5v2	house; dwelling
312	PA:T?		HT0	back
313	PAKAL?		XD2v1	shield
314	PAS		ZX2v1	dawn; open
315	PAS		MZ2v2	dawn; open
316	PAT		2G4v1	make, build, sculpt
317	PA'		2S7v1	to split
318	PI:T?		ZH7v1	litter?
319	PIK		ZC5v3	period: 144,000 days (b'ak'tun)
320	PIK		SB1v1	period: 144,000 days (b'ak'tun); cloth?
321	PUL		PT1v1	to burn

322	SAB'AK?; SIB'IK?		YGAv1	ink, soot
323	SAK		3M1v1	white; artificial
324	SA'		32Rv2	atole, maize gruel
325	SI:M?		SSGv1	Glyph Y; ?
326	SIH		AL8v1	be born
327	SIHO:M		32Kv2	flower?
328	SIHO:M		32Kv3	flower?
329	SO:TZ'; SU:TZ'		APMv1	ha:b' period: Sotz'; bat
330	TA:K		ZS5v1	[plural marker]
331	TAJ		1B1v3	torch?
332	TAL		YS7v1	[numeral classifier]
333	TE'		2G1v1	tree, wood, plant [numeral classifier]
334	TE'		YG1v1	tree, wood, plant [numeral classifier]

335	TE'		ST4v1	tree, wood, plant [numeral classifier]
336	TE'		ZZ5v1	tree, wood, plant [numeral classifier]
337	TI:L		APGv1	tapir; burn
338	TI:L		MB4v1	burn
339	TI'		32Pv1	mouth, edge
340	TI'		SSBv1	mouth, edge
341	TI'?		32Pv3	mouth?, edge?
342	TO:K'		1C1v1	flint
343	TO:K'?		XQ8v1	Day 18: Etz'nab'
344	TU:N; SIHO:M		ZC1v2	day 19: Kawak; stone; flower
345	TU:N; SIHO:M		ZC1v1	day 19: Kawak; stone; flower
346	TZAK		MZKv1	conjure
347	TZUTZ		APNv1	finish, complete

348	TZUTZ		MRBv1	finish, complete
349	TZ'AK		ZX6v1	succession, exchange
350	TZ'AK		ZX6v2	succession, exchange
351	TZ'AK		ZX6v4	succession, exchange
352	TZ'AK		ZX6v5	succession, exchange
353	TZ'AK		ZX6v8	succession, exchange
354	TZ'AK		ZX6v9	succession, exchange
355	TZ'AK		YS6v1	succession, exchange
356	TZ'AM		XHA v1	throne
357	TZ'AM?		XQ7v1	throne?
358	TZ'UNUN		BM0	hummingbird
359	T'AB'?		ZY1v1	bless?; ascend?
360	T'U:L		AP7v1	rabbit

361	UH		SCHv2	necklace
362	UK'		PM4v1	to drink
363	UN?		AP2v1	ha:b' period: K'ank'in; avocado?
364	USI:J		BV0	vulture
365	WA:Y		AM7v1	spirit companion; sleep, dream
366	WA:YWAL?		PE4v1	sorcerer
367	WAKLAJU:N		PH0	sixteen
368	WAL?		1G0	in?
369	WAXAK; AJAN?		PE8v1	eight; Ajan? (God E/maize god)
370	WAXAKLAJU:N		PE0v1	eighteen
371	WAY		ZUBv1	chamber,portal
372	WA'		SSLv1	stand up
373	WE'?		PM5v2	to eat

374	WINIK; WINAL		XS1v1	period: 20 days (winal); person, month (winal)
375	WINIK; WINAL		AA7v1	period: 20 days (winal); person, month (winal)
376	WINIK; WINAL		AA0	period: 20 days (winal); month (winal)
377	WINIKHA:B'		SB3v1	period: 7200 days (k'atun); k'atun
378	WINIKHA:B'		ZH1v1	period: 7200 days (k'atun)
379	WITZ		ZC2v1	hill, mountain
380	WITZ'		SS5v1	?
381	WI'; WI'TL		1S1v1	root; last; lacking; [verbal suffix]
382	WI'?		ZQBv1	sprout?, root?
383	WI'TL?		YS3v1	last; lacking
384	WU:K; HUK		ST7v1	ha:b' patron for Wo; seven
385	XIB'?		PC4v1	male, man?
386	XOK?		AA4v1	ha:b' patron for Sotz'/Sutz'; shark?

387	XOK?		AA4v2	ha:b' patron for Sotz'/Sutz'; shark?
388	XUKUB'		AV5v1	antler
389	YAX		ZUJv1	first; green, blue
390	YOP?		1SAv1	leaf?
391	YOPA:T		SS3v1	? [deity name]