

CONVERSION TABLES

The following pages provide, for each of the 31 Mayan dialects, conversion tables which relate my symbols to those used by the various authors whose data has been incorporated in this comparative vocabulary.

The first column ("JMD") on each page lists the symbols used by me. In principle, this represents a rough "phonemic" statement about the language in question, but this should not be pressed too far. The various authors, particularly the early ones, sometimes transcribe too narrowly, or for some other reason include symbols which later investigators do not match. This means that the JMD column sometimes contains more symbols than is warranted from a purely "phonemic" point of view, since this column is really a specification of what symbols I have used in converting from the various sources. Generally, however, the "extra" symbols are enclosed in parentheses. Thus the JMD column for Chol contains (q) and (q'), since these symbols, though necessary to transcribe Stoll's and Sapper's *k* and *k'*, do not appear to represent sounds which are distinctive in Chol.

The remaining columns list the actual symbols used by the different authors. Where these authors do not provide a chart or list of symbols, I have extracted them directly from the data. Occasionally this gives rise to what may be accidental gaps, especially in short vocabulary lists. For example, /t'/ is not a frequent phoneme in the Mayan languages, so it is often the case that it will not appear at all in short word-lists.

Occasionally, an author uses two or more orthographic variants for transcribing a given sound. Sometimes, but not always, the alternatives are in complementary distribution. This is true, for example, in the following two cases:

a) *c* vs. *qu* (as well as *c'* vs. *q'u*, and *c'* vs. *qu'*): the *qu* forms are written before *i* and *e*; *c* is used elsewhere;

b) both Stoll and Sapper transcribe two variants for all their glottalized stops: *c''c*, *k''k*, *t''t*, *tz''tz*, *ch''ch*. In each case, the second variant is used at the end of a word (e.g. *k'a'k* "fire").

Frequently, however, there is no accounting for the variants other than noting that the transcriber(s) recorded a given sound in more than one way. This seems to be the case, for example, with Starr's use of both *sh* and *x* for /š/ in Chol.

In cases of overly narrow vowel transcriptions, I have generally resorted to the comment field in the comparative vocabulary to identify the variant used. For example, La Farge and Byers record three different types of *u* for Kanjobal: *u/ū/ũ*. As indicated in the chart for Kanjobal, I convert all of these to /u/ but add, in the comment field, "vowel as in English *blue*" (for *ū*), and "vowel as in English *put*" (for *ũ*).

ACATEC

JMD	La Farge & Byers (1931)	Kaufman (1976)
'	'	ʔ
b	b/b: ¹	b'
c	k	k
c'	k'	k'
h/(H)	h/H ²	h
j	x	j
l	l	l
m	m	m
n	n	n
ŋ	ñ	-
p	p	p
q	q	q
q'	-	q'
r	-	r
s	s	s
š	c	xh
š'	-	x
t	t	t
t'	t'	t'
tš	ts	tz
tš'	ts'	tz'
tč	tc	ch
tč'	tc'	ch'
tč'	-	tx
tč'	-	tx'
w	w	w
y	y	y
a	a	a
aa	aa	aa
e	e/ě	e
ee	ee	ee
i	i	i
ii	-	ii
o	o/ō	o
oo	-	oo
u	u/ū	u
uu	-	uu

¹b: has "delayed release" ²H is an "intensified h-sound"

ACHI

JMD

Mayers
(1966)

'	'
b	b'
c	c/qu
c'	c'/q'u
j	j
l	l ¹
m	m
n	n
p	p
q	k
q'	k' ²
r	r
s	s
š	x
t	t
t'	t'
ɛ	tz
ɛ'	tz'
č	ch
č'	ch'
w	w
y	y
a	a
e	e
i	i
o	o
u	u

¹syllable-final *l* is flapped in Cubulco, voiceless in Joyabaj and Rabinal

²realized as ['] in Cubulco, as [q'] in Joyabaj and Rabinal

AGUACATEC

JMD	Stoll (1884, 1887)	Sapper (1897)	Andrade (1946)	Recinos (1954)
'	-	-	ʔ	-
b	b	b	b	b
c	c/qu	c/qu	k	c/qu
c'	c'/qu''c	c'/qu'	k'	k
(h)	-	h ¹	h	-
j	j	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
(p')	-	-	p'	-
q	k	k	q	-
q'	k''k	k''k	q'	-
r	r	r	r	-
s	s	s	s	s
š	x	x	ʃ	x
š	-	-	ʃ	-
t	t	t	t	t
t'	-	-	t'	-
ɛ	tz	tz	ts	tz
ɛ'	tz''tz	tz''tz	ts'	-
č	ch	ch	tʃ	ch
č'	ch''ch	ch''ch	tʃ'	-
č	-	-	tʃ	-
č'	-	-	tʃ'	-
w	vu/v	vu/v	w	hu
y	y	y	-	y
a	a	a	a	a
aa	aa	-	a·	-
e	e	e	e	e
ee	ee	-	e·	ee
i	i	i	i	i
ii	ii	ii	i·	-
o	o	o	o	o
oo	oo	oo	-	-
u	u	u	u	u
uu	uu	uu	uu/u·	uu

¹once only; probably error for j

AGUACATEC

JMD	Mayers (1966)	Kaufman (1969)	Kaufman (1976)
'	'	ʔ	ʔ
b	b'	b'	b'
c	c/qu	k	k
c'	c'/q'u	k'	k'
(h)	-	-	-
j	j	x	j
l	l	l	l
m	m	m	m
n	n	n	n
p	p	p	p
(p')	-	-	-
q	k	q	q
q'	k'	q'	q'
r	r	-	r
s	s	s	s
š	x	š	xh
š'	š	š'	x'
t	t	t	t
t'	t'	-	t'
ɛ	tz	c	tz
ɛ'	tz'	c'	tz'
ç	ch	ç	ch
ç'	ch'	ç'	ch'
ç'	tx	ç	tx
ç'	tx'	ç'	tx'
w	w	w	w
y	y	y	y
a	a/ä	a	a
aa	-	a'	a:
e	e/ë	e	e
ee	-	e'	e:
i	i/i	i	i
ii	-	i'	i:
o	o	o	o
oo	-	-	o:
u	u/ü	u	u
uu	-	u'	u:

NB: Palatalization (my /cy/) is marked by *ḳ* in Kaufman 1969, by *ky* in Kaufman 1976.

CAKCHIQUEL

JMD	Guzman (1704)	Stoll (1884, 1887)	Mayers (1966)	Grimes (1968)
'	-	'	'	-
b	b	b	b'	b
c	c/qu	c/qu	c/qu	k
c'	4 ¹	c'/qu'/'c	c'/q'u	k'
(cy)	-	-	cy	k ^y
(cy')	-	-	c'y	ky'
(h)	h	-	-	-
j	j ²	j	h ³	h
l	l	l/l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	ŋ
p	p	p	p	p
q	k	k	k	q
q'	ε ¹	k'/'k	k'	q'
r	r	r	r	r
s	ç/z/r	s	s	s
š	x	x	x	š
t	t	t	t	t
t'	-	-	-	t'
ɛ	tz	tz	tz	ɛ
ɛ'	4, ¹	tz'/'tz	tz'	ɛ'
č	ch	ch	ch	c
č'	4h ¹	ch'/'ch	ch'	c'
w	v	vu/v	w	w
y	y	y	y	y
a	a	a	a	a
e	e	e	e	e/ε ⁴
Λ	-	-	ä	a ⁴
i	i	i	i	i/i ⁴
o	o	o	o	o/o ⁴
u	u	u	u	u/u ⁴

¹these are Parra's († 1560) symbols - the so-called "cuatrillo" and "tresillo"

²rare ³two cases of *j*, apparently errors for *h*

⁴underlined vowels are lax (ε, Λ, I, ɔ, U, respectively)

CAKCHIQUEL

JMD	Campbell (1971)	Kaufman (1976)
'	ʔ	ʔ
b	b'	b'
c	k	k
c'	k'	k'
(cy)	-	ky
(cy')	-	ky'
(h)	-	-
j	x	j ¹
l	l	l ¹
m	m	m
n	n	n ²
(ŋ)	-	-
p	p	p
q	q	q
q'	q'	q'
r	r	r ¹
s	s	s
š	š	x
t	t	t
t'	t'	t'
ɛ	ɛ	tz
ɛ'	ɛ'	tz'
č	č	ch
č'	č'	ch'
w	w	w ¹
y	y	y ¹
a	a	a/ä ³
e	e/ě	e
ɛ	ä	ä ⁴
i	i/ɪ	i/i ³
o	o/ö	o/ö ³
u	u/ü	u/ü ³

¹ voiceless in final position ²/n/ = [ŋ] in final position
³ the umlaut marks lax vowels (ɛ, ɪ, ɔ, ʊ, respectively); these vowels are found only in Southern (e.g. San Andrés Itzapa) and Western (e.g. Patzún) Cakchiquel ⁴ only in Northeastern and Central Cakchiquel (6-vowel system)

CHICOMUCELTEC

JMD	Sapper (1897, 1912)	Termer (1930)
b	b	b
c	c/qu	c
c'	c'/qu'	c/'c
h	h	h
j	j	j
l	l	l
m	m	m
n	n	n
p	p	p
(q)	k	k
(q')	k/'k	k/'k
r	r	-
s	s	s
š	x	x
t	t	t
t'	tz	tz
t'	tz'	-
č	ch	ch
č'	ch'	ch'
w	vu/v	v
y	y	y
a	a	a
aa	aa	aa
e	e	e
ee	ee	-
i	i	i
ii	ii	ii
o	o	o
oo	oo	oo
u	u	u
uu	-	uu

CHOL

JMD	Moran/Gates (1695/1935)	Stoll (1884)	Sapper (1897, 1907)	Starr (1902)
'	-	-	-	-
b	b	b	b	b
c	c/qu	c/qu	c/qu	c
c'	ε	c'/qu'	c'/'c	k
(h)	-	-	h	h ³
j	h	j	j	j/χ
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ny)	-	-	ny	ñ
p	p	p	p	p
p'	-	-	-	-
(q)	-	k	k	-
(q')	-	k'/'k	k'/'k	-
r	-	-	-	-
s	z/ç/s ¹	s	s	s
š	x	x	x	sh/x
t	t	t	t	t
t'	-	-	-	t'
ε	tz	tz	tz	ts
ε'	-	tz'/'tz	tz'/'tz	-
č	ch	ch	ch	ch/tch
č'	-	ch'/'ch	ch'/'ch	-
w	v	vu/v	vu	w
y	-	y	y	-
a	a	a	a	a/ā
aa	aa	aa	aa	-
e	e	e	e	ē/ē
ee	-	ee	ee	-
Λ	-	ö	ö ²	-
i	i/y	i	i	i/ī/ī
ii	ii/ij	ii	-	-
o	o	o	o	o/ō
oo	-	oo	oo	-
u	u/v	u	u	u/ū/ü/ū
uu	uu	uu	uu	ūū

¹s only final; rare

²ö frequent in 1897 and 1907; rare ä and ü in 1907 probably misprint for ö

³rare

CHOL

JMD	Rau (1902)	Becerra (1934)	Aulie (1949)	Andersen & War. (1953)
'	ɹ ¹	-	'	'
b	b/b' ²	b	b	b
c	c/k ³	k	k	k
c'	k'/k'	-	k'	k'
(h)	h	-	-	-
j	j	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ny)	ñ	-	-	ñ
p	p	p	p	p
p'	p' ¹	-	p'	p'
(q)	-	-	-	-
(q')	-	-	-	-
r	r ¹	-	r	r
s	s	s	s	s
š	sch	sh	x	x
t	t	t	t	t ⁴
t'	t'/th	-	t'	t'
ɕ	tz/z	ts	ts	ts
ɕ'	z' ¹	-	ts'	ts'
č	ch/tch/tsch	ch	ch	ch
č'	tsh' ¹	-	ch'	ch'
w	w/v/gu/hu	hu	w	w
y	y/ll	-	y	y
a	a	a	a	a
aa	aa	aa	-	-
e	e	e	e	e
ee	ee	-	-	-
ʌ	-	-	ʌ	ʌ
i	i	i	i	i
ii	ii	-	-	-
o	o	o	o	o
oo	-	-	-	-
u	u	u	u	u
uu	-	uu	-	-

¹rare

²b' rare

³c rare

⁴always realized as [ty]

JMD

Aulie & Aulie
(1978)

'	'
b	b
c	c/qu
c'	c'/q'u
(h)	-
j	j
l	l
m	m
n	n
(ny)	ñ
p	p
p'	p'
(q)	-
(q')	-
r	r
s	s
š	x
t	t
t'	t'
ɛ	ts
ɛ'	ts'
č	ch
č'	ch'
w	w
y	y
a	a
aa	-
e	e
ee	-
ʌ	ʌ
i	i
ii	-
o	o
oo	-
u	u
uu	-

CHONTAL

JMD	Stoll (1884)	Sapper (1897)	La Farge & Blom (1927)	Becerra (1934)
'	-	-	-	'
b	b	b	b	b
c	c/qu	c	k	k
c'	c'/qu'	-	k'	-
(H)	-	-	H ²	-
j	j	j	h/x ³	j
l	l/l	l/l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	ñ	-
p	p	p	p	p
(p')	-	-	p' ⁴	-
(q)	k	k	q	-
(q')	k'/k	k'	-	-
r	-	-	r	-
s	s	s	s	s
š	x	x	c	sh
t	t	t	t	t
t'	-	t'	t' ⁴	-
ɕ	tz	tz	ts	ts
ɕ'	tz'/tz	tz'/tz	ts' ⁴	-
č	ch	ch	tc	ch
č'	ch'/ch	ch'	tc' ⁴	-
w	vu/gu ¹	vu	w/v	hu/gu/gü/v
y	y	y	y	y
a	a	a	a/ā	a
aa	aa	aa	aa	aa
e	e	e	e	e
ee	ee	ee	ee	ee
ʌ	ö	ö	E/ě	-
i	i	i	i/í	i
ii	-	-	ii	ii
o	o	o	o	o
oo	oo	oo	oo	oo
u	u	u	u/ū	u
uu	uu	uu	uu	uu

¹gu rare

²H is an "intensified h-sound"

³x rare

⁴rare

CHORTI

JMD	Galindo (1834)	Sapper (1897, 1907)	Girard (1949)	Mayers (1966)
'	-	¹	/' ⁴	'
b	b	b	b	b'
c	c/qu	c/qu	k	c/qu
c'	k	c'	k'/k'	c'/q'u
h	-	h	h	h ³
j	j	j	j	j ⁴
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	ng	ng ²	-	-
p	-	p	p	p
p'	-	-	p' ³	p'
(q)	-	k	q	-
(q')	-	k'/k	q'/q'	-
r	r	r	r	r
s	s	s	s	s
š	x	x	š	x
t	t	t	t	t
t'	-	-	t'/t'	t'
ɕ	ts	tz	ɕ	tz
ɕ'	-	tz'/'tz	ɕ'/ɕ'	tz'
ç	ch	ch	ç	ch
ç'	-	ch'/'ch	-	ch'
w	u	vu	w	w
y	i	y	y	y
a	a	a	a	a
aa	aa	aa	ā	-
e	e	e	e	e
ee	-	-	ē	-
(ʌ)	-	-	ø	-
i	i	i	i	i
ii	-	ii	ī	-
o	o	o	o	o
oo	-	-	ō	-
u	u	u	u	u
uu	-	uu	ū	-

¹once only (in 1907) ²rare (only in 1907)

³not in phoneme list, but frequent in data ⁴rare

CHORTI

JMD	Kaufman (1976)
'	7
b	b ¹
c	k
c'	k'
h	-
j	j ²
l	l
m	m
n	n
(ŋ)	-
p	p
p'	-
(q)	-
(q')	-
r	r
s	s
š	x
t	t
t'	t'
e	tz
e'	tz'
č	ch
č'	ch'
w	w
y	y
a	a
aa	-
e	e
ee	-
(ʌ)	-
i	i
ii	-
o	o
oo	-
u	u
uu	-

¹listed as "p' or b'" in chart of phonemes; but only b' in data

²/j/ = [x] word-final, [h] elsewhere

CHUJ

JMD	Stoll (1887)	Sapper (1897)	Seler (1901)	La Farge & Byers (1931)
'	-	-	-	'
b	b	b	b/b' ²	b/b: ³
c	c/qu	c/qu	c/qu	k
c'	c'/qu''c	c''c	-	k'
h	h	-	-	h
j	j	j	h	x
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
ŋ	-	gn	-	ñ
p	p	p	p	p
(p')	-	-	-	-
(q)	k	k	k	-
(q')	k''k	k''k	k''k	-
r	r	-	-	-
s	s	s	z	s
š	x	x	x	c
t	t	t	t	t
t'	-	-	-	-
ɛ	tz	tz	tz	ts
ɛ'	tz''tz	-	tz''tz	-
č	ch	ch	ch	tc
č'	ch''ch	ch'	ch'	tc'
w	vu/v	vu/v	w	w/v
y	y	y	y	y
a	a	a	a/ā	a/ā/ā ⁴
aa	aa ¹	aa	aa	aa
e	e	e	e/ē	e/ē
ee	ee ¹	ee	ee	-
(ʌ)	-	-	-	e
i	i	i	i/ī	i
ii	-	ii	ii	ii
o	o	o	o/ō	o/ō/ō ⁴
oo	-	oo	oo	oo
u	u	u	u/ū	u/ū
uu	-	uu	uu/uū	uu

¹rare ²b' rare ³b: has "delayed release"

⁴ā and ō are "palatalized" (?)

CHUJ

JMD	Andrade (1946)	Recinos (1954)	Mayers (1966)	Kaufman (1976)
'	'	-	'	7
b	b	b	b'	b'
c	k/k ¹	c/qu	c/qu	k
c'	k'	k	c'/q'u	k'
h	h	-	-	h ⁵
j	x/h	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
ŋ	ŋ	-	ŋ	ñ
p	p	p	p	p
(p')	p'	-	-	-
(q)	-	-	k ³	-
(q')	-	-	-	-
r	-	r	r ⁴	r ⁴
s	s	s/z	s	s
š	c	x	x	x
t	t	t	t	t
t'	t'	-	t'	t'
ɛ	ts	tz	tz	tz
ɛ'	ts'	-	tz'	tz'
č	tc	ch/tch	ch	ch
č'	tc'	-	ch'	ch'
w	w	u	w	w
y	y	y	y	y
a	a/a ²	a	a	a
aa	aa	aa	a ³	-
e	e/e ²	e	e	e
ee	ee	-	-	-
(Λ)	-	-	-	-
i	i	i	i	i
ii	ii	-	-	-
o	o/o ²	o	o	o
oo	oo	-	-	-
u	u/u ²	u	u	u
uu	uu	uu	-	-

¹k once only ²a: four times, e:, o:, u: twice each

³in phoneme list, but not in data ⁴once only

⁵judging by the data, h is initial only

HUASTEC

JMD	Tapia Zenteno (1747, 1767)	Alejandre (1870, 1890)	Stoll (1884)	Lorenzana (1896)
	-	-	-	-
b	b	b	b	b
c	c/qu	c/qu	c/qu	c/qu
c'	-	-	-	-
h	h	h	h	h ³
j	j	j	j	j
l	l/ll	l/ll	l/ll	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
(q)	-	-	k	-
(q')	-	-	k''k ²	-
r	-	-	-	r
š	x	x	x	sch
θ	z	z	s	d
t	t	t	t	t
t'	-	-	-	-
e	tz	tz	tz	-
e'	-	-	-	-
č	ch	ch	ch	ch
č'	-	-	-	-
w	hu	hu/v/gu ¹	vu/gu ¹	v/g/gu/gü ⁴
y	y	y	y	y/ll
a	a	a	a	a
aa	aa	-	aa	-
e	e	e	e	e
ee	-	-	ee	-
i	i	i	i	i
ii	ii	-	-	-
o	o	o	o	o
oo	-	-	oo	-
u	u	u	u	u
uu	uu	-	-	-

¹gu rare ²both rare ³rare
⁴g final; gu before e and i; gü before a, o, u

HUASTEC

JMD	Starr (1902)	Larsen (1955)
'	-	'
b	b	b
c	c ¹	c/qu
c'	k	c'/q'u
h	-	-
j	h	j
l	l	l
m	m	m
n	n	n
p	p	p
(q)	-	-
(q')	-	-
r	-	r
š	sh	x
θ	th/θ	th
t	t	t
t'	-	t'
ɸ	-	ts
ɸ'	-	ts'
č	ch/tch	ch
č'	-	ch'
w	w/v	hu
y	y	y
a	ā/a	a
aa	-	ā
e	ē/ě	e
ee	-	ē
i	ī/i/ĭ	i
ii	-	ī
o	ō/o	o
oo	ōō	ō
u	ū	u
uu	-	ū

¹rare

ITZA

JMD	Baezo (1832)	Berendt (1867)	Stoll (1884)	Armas (1897)
'	-	-	-	-
b	b	b	b	b
c	c	c/qu	c/qu	c/qu
c'	k	k/k	c'/qu'/c	k
h	-	h ³	-	h ⁴
j	h	j	j	j
l	l	l	l/ll	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
p'	-	p	-	p
(q)	-	-	k	-
(q')	-	-	k'/k	-
r	r ¹	r ⁴	-	-
s	s	z	s	s
š	x	x	x	x
t	t	t	t	t
t'	th	th	-	th
e	z	tz	tz	z
e'	j	ɔ	tz'/tz	-
č	ch	ch	ch	ch
č'	-	ch	ch'/ch	ch
w	v	u	vu/v/u	u
y	ll	y	y	y/-ll-
a	a	ǎ/a	a	a
aa	aa	aa/a ^a	aa	aa
e	e	ě/e	e	e
ee	ee	ee	ee	-
ʌ	-	-	ö	-
i	i	ɪ/i	i	i
ii	-	ii	ii	ii
o	o	ō/ō/o	o	o
oo	oo	ō ^o	oo	-
u	v/u ²	ū/ū/u	u	u
uu	uu	-	uu	uu

¹once; may be error for *n* ²*v* in initial position ³rare

JMD

Schumann
(1971)

,	,
b	b
c	c/qu
c'	k
h	-
j	j
l	l
m	m
n	n
p	p
p'	p'
(q)	-
(q')	-
r	r
s	s
š	x
t	t
t'	t'
e	ts
e'	dz
č	ch
č'	ch'
w	w
y	y
a	a
aa	aa
e	e
ee	ee
Λ	ö
i	i
ii	ii
o	o
oo	oo
u	u
uu	uu

DXIL

JMD	Anonymous (1824)	Stoll (1884, 1887)	Sapper (1897)	Mayers (1966)
'				'
b	b	b	b	b'
c	c/qu	c/qu	c/qu	c/qu
c'	ε	c'/qu''c	c''c	c'/q'u
h	h	h ¹	-	-
j	j	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	ng	ng	-
p	p	p	p	p
q	-	k	k	k
q'	-	k''k	k''k	k'
r	-	r ¹	-	r
s	s	s	s	s
š	x	x	x	x
š'	-	-	-	š
t	t	t	t	t
t'	-	-	-	t'
e	tʒ	tʒ	tʒ	tʒ
e'	-	tʒ''tʒ	tʒ''tʒ	tʒ'
č	ch	ch	ch	ch
č'	-	ch''ch	ch''ch	ch'
č'	-	-	-	tx
č'	-	-	-	tx'
w	v	vu/v	vu/u	v
y	y	y	y	y
a	a	a	a	a
aa	-	aa	aa	-
e	e	e	e	e
ee	-	ee ¹	-	-
i	i	i	i	i
ii	-	ii ¹	-	-
o	o	o	o	o
oo	oo	oo ¹	-	-
u	u	u	u	u
uu	-	uu ¹	-	-

¹ only in 1887

JMD	Kaufman (1969)	Kaufman (1976)
'	ʔ	ʔ
b	b'	b' ¹
c	k	k
c'	k'	k'
h	-	-
j	x	j/h ²
l	l	l
m	m	m
n	n	n
(ŋ)	-	-
p	p	p ¹
q	q	q
q'	q'	q'
r	r	r
s	s	s
š	š	xh
š'	š'	x
t	t	t
t'	t'	t'
ɛ	c	tz
ɛ'	c'	tz'
č	č	ch/tch
č'	č'	ch'/tch'
ç	ç	tx
ç'	ç'	tx'
w	w	w
y	y	y
a	a	a
aa	-	aa
e	e	e
ee	-	ee
i	i	i
ii	-	ii
o	o	o
oo	-	oo
u	u	u
uu	-	uu

¹missing from phoneme list, but in data

²j initial, h final

JACALTEC

JMD	Stoll (1887)	Sapper (1897, 1912)	Seler (1901)	La Farge (1927, 1931)
'	'1	-	'	'
b	b	b	b	b/b: ²
c	c/qu	c/qu	c/qu	k
c'	c'/'c	c'/qu'/'c	c'	k'
h/(H)	-	h	-	h/H ³
j	j	j	h	x
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
ŋ	gn	ng	ng	ñ
p	p	p	p	p/p: ²
q	k	k	k	q ¹
q'	k'/'k	k'/'k	k'	Q
r	-	-	-	-
s	s	s	z	s
š	x	x	x	c
š'	-	-	-	-
t	t	t	t	t
t'	-	-	-	t'
e	tz	tz	tz	ts
e'	tz'/'tz	tz'/'tz	tz'	ts'
č	ch	ch	ch	tc
č'	ch'	ch'/'ch	ch'	tc'
č'	-	-	-	-
č'	-	-	-	-
w	vu	vu/v	u	w/v
y	y	y	y	y
a	a	a	a/ā	a/ā
aa	aa	aa	aa	aa
e	e	e	e/ē	e/ē
ee	ee	-	-	ee
(Λ)	-	-	-	e
i	i	i	i/ī	i/ī
ii	ii	ii	-	ii
o	o	o	o/ō	o/ō
oo	oo	oo	-	oo
u	u	u	u/ū	u/ū
uu	uu	uu	-	uu

¹rare ²b: and p: have "delayed release"

³H is an "intensified h-sound"

JACALTEC

JMD	Recinos (1954)	Mayers (1966)	Kaufman (1976)
'	'	'	ʔ
b	b	b'	b'
c	c/qu	c/qu	k
c'	c'	c'/q'u	k'
h	h	h ¹	-
j	j	j	h
l	l	l	l
m	m	m	m
n	n	n	n
ŋ	-	ŋ	nh
p	p	p	p
q	k	k	q
q'	k'	k'	q'
r	-	r	r
s	s/z	s	s
š	x/sh	x	xh
š'	-	š	x
t	t	t	t
t'	-	t'	t'
ɛ	tz	tz	tz
ɛ'	-	tz'	tz'
č	ch/tch	ch	ch
č'	-	ch'	ch'
č̣	-	tx	tx
č̣'	-	tx'	tx'
w	u	w	w
y	y	y	y
a	a	a	a
aa	-	-	-
e	e	e	e
ee	-	-	-
(ʌ)	-	-	-
i	i	i	i
ii	-	-	-
o	o	o	o
oo	oo	-	-
u	u	u	u
uu	-	-	-

¹in data, but not in phoneme list

KANJOBAL

JMD	La Farge & Byers (1931)	Andrade (1946)	Kaufman (1976)
'	'	-	ʔ
b	b/b: ¹	b	b'
c	k	k	k
c'	k'	k'	k'
h/(H)	h/H ²	-	h ⁴
j	x	x	j
l	l	l	l
m	m	m	m
n	n	n	n
ŋ	ñ	-	-
p	p/p: ¹	p	p
q	q ³	q	q
q'	Q	q'	q'
r	-	r	r
s	s	s	s
š	c	ʃ	xh
š'	-	ʃ'	x
t	t	t	t
t'	t' ³	t'	t'
e	ts	ts	tz
e'	-	ts'	tz'
č	tc	tʃ	ch
č'	tc'	tʃ'	ch'
č̣	-	tʃ̣	tx
č̣'	-	tʃ̣'	tx'
w	w	w	w
y	y	y	y
a	a	a	a
e	e/ě	e	e
ee	ee	-	-
(Λ)	e	-	-
i	i	i	i
o	o/ō	o	o
u	u/ū/ǔ	u	u

¹b: and p: have "delayed release"

²H is an "intensified h-sound"

³rare ⁴h is only initial; rare

KEKCHI

JMD	Anonymous (1583)	Stoll (1884)	Sapper (1897)	Burkitt (1902)
'	-	-	-	!/. ²
b	b	b	b	b
c	c/qu	c/qu	c/qu	k
c'	-	c'/qu/'c	c'/qu/'c	k!
h	-	-	h	h
j	h	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
q	-	k	k	q
q'	-	k'/'k	k'/'k	q!
r	r	r	r	r
s	s/c ¹	s	s	s
š	x	x	x	x
t	t	t	t	t
t'	-	-	-	t'
é	tz	tz	tz	ts
é'	-	tz'/'tz	tz'/'tz	t!s
č	ch	ch	ch	tx
č'	-	ch'/'ch	ch'/'ch	t!x
w	v	vu/v	vu/v	gw/w
y	y	y	y	y
a	a	a	a	a
aa	-	aa	aa	ā
e	e	e	e	e
ee	-	-	-	ee/ē
i	i	i	i	i
ii	-	-	-	-
o	o	o	o	o
oo	oo	oo	oo	-
u	u	u	u	u
uu	-	-	uu	ū

¹c before e

²umlauted vowel marks vowel + glottal stop; thus lē = [le']

KEKCHI

JMD	Mayers (1966)	Campbell (1971)	Kaufman (1976)
		ʔ	ʔ
b	b	b'	b'
c	c/qu	k	k
c'	c'/q'u	k'	k'
h	h	h	h
j	j	x	j
l	l	l	l
m	m	m	m
n	n	n	n
p	p	p	p
q	q	q	q
q'	q'	q'	q'
r	r	r	r
s	s	s	s
š	x	š	x
t	t	t	t
t'	t'	t'	t'
ɛ	tz	ɛ ¹	tz
ɛ'	tz'	ɛ'	tz'
č	ch	č	ch
č'	ch'	č'	ch'
w	w	w	w ²
y	y	y	y ³
a	a	a/ǎ	a
aa	a'	-	aa
e	e	e	e
ee	e'	-	ee
i	i	i/ɪ	i
ii	i'	-	ii
o	o	o/õ	o
oo	o'	-	oo
u	u	u/ũ	u
uu	u'	-	uu

¹twice only; normally realized as [s] ²/w/ = [gw] before a vowel, [w] elsewhere
³/y/ = [dy] or [gy] before a vowel, [y] elsewhere

LACANDON

JMD	Moran/Gates (1695/1935)	Andrade (1946)	Baer & Merrifield (1971)	Fisher (1973)
'	-	'	'	ʔ
b	b	b	b ²	b'
c	c/qu	k	c	k
c'	ε	k'	c'/q'u	k'
h	-	h/	-	-
j	h	h	j	h
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
p'	-	p'	p'	p'
r	-	r ¹	r ³	r
s	z/ç	s	s	s
š	x	c	x	š
t	t	t	t	t
t'	-	t'	t'	t'
ε	tz	ts	ts	ε
ε'	-	ts'	ts'	ε'
č	ch	tc	ch	č
č'	-	tc'	ch'	č'
w	v	w	w	w
y	y	y	y	y
a	a	a	a	a
aa	aa	a·	-	aa
e	e	e	e	e
ee	-	e·	-	ee
Λ	-	ë	i	i
i	i	i	i	i
ii	ii	i·	-	ii
o	o	o	o	o
oo	oo	o·	-	oo
u	u	u	u	u
uu	uu	u·	-	uu

¹rare ²b is "pharyngeal and voiceless as a syllable coda"

³r "varies from several r-like sounds to [l]"

NB: Berendt 1867 also includes a few Lacandon words, using the following symbols: *h* (= /j/), *l*, *n*, *t*, *ch* (= /č/), *e*, *i*, *o*, *u*.

MAM

JMD	Stoll (1884, 1887)	Sapper (1897, 1912)	Jaramillo (1918)	La Farge & Byers (1931)
'	'	' ¹	-	'
b	b	b	b	b
c	c/qu	c/qu	k	k
c' (h)/(H)	c'/qu'/'c	c'/qu'/'c	k'/'k	k' h/H ³
-	-	-	-	-
j	j	j	j	x
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	ng	-	-	ŋ
p	p	p	p	p
q	k	k	-	q
q'	k'/'k	k'/'k	k'''/'k	q' ¹
r	-	r	r	-
s	s	s	s	s
š	x	x	sh	c
š'	-	-	-	-
t	t	t	t	t
t'	-	-	-	t'
ɸ	tz	tz	ts	ts
ɸ'	tz'	tz'/'tz	ts'	-
č	ch	ch	č	tc
č'	ch'/'ch	ch'/'ch	č'/'č'' ²	tc'
č'	-	-	-	-
č'	-	-	-	-
w	vu/v	vu/v	gu/gü/u	w
y	y	y	y	y
a	a	a	a	a/ā ³
aa	aa	aa	aa	aa
e	e	e	e	e/ě
ee	-	-	-	-
(ʌ)	-	-	ö	e
i	i	i	i	i
ii	-	ii	-	ii
o	o	o	o	o/ō
oo	-	oo	-	oo
u	u	u	u	u/ū
uu	uu	uu	-	-

¹rare ²č'' rare ³H is an "intensified h-sound"

MAM

JMD	Recinos (1954)	Mayers (1966)	Kaufman (1969)	Schumann (1969)
'	'1	'	ʔ	'
b	b	b'	b'	b
c	c/qu	c/qu	k	k
c'	c'	c'/q'u	k'	k'
(h)	-	-	h ³	-
j	j	j	x	h
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	-
p	p	p	p	p
q	k	k	q	q
q'	k/'k	k'	q'	q'
r	-	r	r ³	-
s	s/z	s	s	s
š	x/sh	x	š ³	š
š'	-	š	š'	x
t	t	t	t	t
t'	-	t'	t'	-
e	tz	tz	c	e
e'	tz'	tz'	c'	e'
č	ch	ch	č	č
č'	ch'	ch'	č'	č'
č̣	-	tx	č̣	tx
č̣'	-	tx'	č̣'	tx'
w	v/u/gu	w	w	w
y	y	y	y	y
a	a	a	a	a
aa	aa	a·	a·	aa
e	e	e	e	e
ee	-	e·	e·	ee
(Λ)	-	-	-	-
i	i	i	i	i
ii	ii	i·	i·	ii
o	o	o	o	o
oo	oo	o ^{.2}	o·	oo
u	u	u	u	u
uu	uu	u·	u·	uu

¹rare ²in data, but not in phoneme list ³"marginal"

JMD	Kaufman (1976)
'	ʔ
b	b'
c	k
c'	k'
(h)	-
j	j
l	l
m	m ¹
n	n ¹
(ŋ)	-
p	p
q	q
q'	q'
r	r
s	s
š	xh
š	x
t	t
t'	t'
ɛ	tz
ɛ'	tz'
č	ch
č'	ch'
ç	tx
ç'	tx'
w	w
y	y
a	a
aa	aa
e	e
ee	ee
(ʌ)	-
i	i
ii	ii
o	o
oo	oo
u	u
uu	uu

¹n = [ŋ] finally

NB: Kaufman 1976 also lists *ky* and *ky'* as phonemic (my /cy/, /cy'/).

MOPAN

JMD	Sapper (1897)	Mayers (1966)	Fisher (1973)	Kaufman (1976)
'	-	'	ʔ	ʔ
b	b	b'	b	b'
c	c	c/qu	k	k
c'	-	c'/q'u	k'	k'
d	-	d	d ²	d' ⁴
(h)	h ¹	-	-	-
j	j	h	h	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
ŋ	-	ŋ	ŋ	-
p	p	p	p	p
p'	-	p'	p'	p'
(q)	k	-	-	-
(q')	k'	-	-	-
r	-	r	r ³	r
s	s	s	s	s
š	x	x	š	x
t	t	t	t	t
t'	-	t'	t'	t'
ɛ	tz	tz	ɛ	tz
ɛ'	tz'	tz'	ɛ'	tz'
č	ch	ch	č	ch
č'	ch'	ch'	č'	ch'
w	vu/v	w	w	w
y	y	y	y	y
a	a	a	a	a
aa	aa	a'	aa	aa
e	e	e	e	e
ee	-	e'	ee	ee
ʌ	-	i	i	ä
i	i	i	i	i
ii	ii	i'	ii	ii
o	o	o	o	o
oo	-	o'	oo	oo
u	u	u	u	u
uu	uu	u'	uu	uu

¹rare ²d is found "in some native words"; "sounds like a dental flap"

³r is "present but extremely rare" ⁴"/d"/ can be analyzed as /l/

JMD

Andrade
(1977)¹

,	,
b	b
c	k
c'	k'
d	d ²
(h)	'
j	h
l	l
m	m
n	n
ŋ	-
p	p
p'	p'
(q)	-
(q')	-
r	r ²
s	s
š	c
t	t
t'	t'
ɛ	ts
ɛ'	ts'
č	tc
č'	tc'
w	w
y	y
a	a
aa	a'
e	e
ee	e'
Λ	ë
i	i
ii	i'
o	o
oo	o'
u	u
uu	u'

¹recorded in 1931 ²rare

MOTOZINTLEC

JMD	Sapper (1897, 1912)	Schumann (1969)
'	-	'
b	b	b
c	c/qu	k'
c'	c'/qu'	k
(cy)	-	k ^y
h	h	h ¹
j	j	x
l	l	l
m	m	m
n	n	n
ŋ	-	ŋ
p	p	p
q	k	q,
q'	k'/'k	q'
r	r	r
s	s	s
š	x	š
t	t	t
ɛ	tz	ɛ
ɛ'	tz'/'tz	ɛ'
č	ch	č
č'	ch'/'ch	č'
w	vu/v	w
y	y	y
a	a	a
aa	aa	aa
e	e	e
ee	-	ee
i	i	i
ii	-	ii
o	o	o
oo	oo	oo
u	u	u
uu	-	uu

¹only in Motozintla

POCOMAM

JMD	Stephens (1839) ¹	Stoll (1884, 1888)	Sapper (1897, 1907)	Mayers (1960)
'	-	-	-	'
b	-	b	b	b'/b
c	c	c/qu	c/qu	k
c'	k	c'/qu'/'c	c'	k'
h	-	-	-	-
j	h	j	j	j
l	l	l/l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	-
p	p	p	p	p
(p')	-	-	-	-
q	-	k	k	ḳ
q'	-	k'/'k	k'/'k	ḳ'
r	-	r	r	r
s	s	s	s	s
š	sh	x	x	x
t	t	t	t	t
t'	-	-	-	t' ²
ɛ	tz	tz	tz	ts
ɛ'	-	tz'/'tz	tz'/'tz	ts'
č	ch	ch	ch	ch
č'	-	ch'/'ch	ch'	ch'
w	w/whu	vu/v	vu/v	w
y	y	-	y	y
a	a	a	a	a
aa	aa	-	aa	a'
e	e	e	e	e
ee	-	-	ee	e'
i	i	i	i	i
ii	-	-	-	i'
o	o	o	o	o
oo	-	-	oo	o'
u	u	u	u	u
uu	-	-	uu	u'

¹very limited data ²rare

POCOMAM

JMD	Mayers (1966)	Campbell (1971)	Kaufman (1976)
'	'	ʔ/'	ʔ
b	b'	b'	b'
c	c/qu	k	k
c'	c'/q'u	k'	k'
h	h	h	h
j	j	x	j
l	l	l	l
m	m	m	m
n	n	n	n
(ŋ)	ŋ	-	-
p	p	p	p
(p')	-	-	p'
q	k	q	q
q'	k'	q'	q'
r	r	r	r
s	s	s	s
š	x	š	x
t	t	t	t
t'	-	t' ¹	t'
ɛ	-	-	tz
ɛ'	tz'	ɛ'	tz'
č	ch	č	ch
č'	ch'	č'	ch'
w	w	w	w
y	y	y	y
a	a	a/ã	a
aa	a'	-	aa
e	e	e/ě	e
ee	-	-	ee ²
i	i	i/ɪ	i
ii	i'	-	ii
o	o	o/õ	o
oo	-	-	oo ²
u	u	u/ũ	u
uu	-	-	uu

¹rare ²ee and oo in Spanish loans

POCOMCHI

JMD	Stoll (1884, 1888)	Mayers (1960)	Mayers (1966)	Campbell (1971)
'	-	'	'	?/'
b	b	b'	b'	b'
c	c/qu	k	c/qu	k
c'	c'/qu'/'c	k'	c'/q'u	k'
h	h	h	h	h
j	j	j	j	x
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
q	k	k	k	q
q'	k'/'k	k'	k'	q'
r	r	r	r	r
s	s	s	s	s
š	x	x	x	š
t	t	t	t	t
t'	-	t' ¹	t'	t'
ɛ	tz	-	tz	ɛ
ɛ'	tz'/'tz	ts'	tz'	ɛ'
č	ch	ch	ch	č
č'	ch'/'ch	ch'	ch'	č'
w	vu/v	w	w	w
y	y	y	y	y
a	a	a	a	a/ã
aa	aa	a'	a'	-
e	e	e	e	e/ě
ee	ee	e'	e'	-
i	i	i	i	i/ĩ
ii	ii	i'	i'	-
o	o	o	o	o/õ
oo	oo	o'	o'	-
u	u	u	u	u/ũ
uu	uu	u'	u'	-

¹rare

POCOMCHI

JMD	Kaufman (1976)
'	ʔ
b	b ¹
c	k
c'	k'
h	h
j	j
l	l
m	m
n	n
p	p
q	q
q'	q'
r	r
s	s
š	x
t	t
t'	t' ²
ɛ	tz ²
ɛ'	tz'
č	ch
č'	ch'
w	w
y	y
a	a
aa	aa
e	e
ee	ee
i	i
ii	ii
o	o
oo	oo
u	u
uu	uu

¹b' = [w'] before vowels, [n'] before apicals, [m'] elsewhere, in e.g. San Cristóbal Verapaz ²in phoneme list, but not in data

QUICHE

JMD	Stoll (1884, 1887)	Mayers (1966)	Campbell (1971)	Kaufman (1976)
'	'1	'	?/'	7
b	b	b'	b'	b'
c	c/qu	c/qu	k	k
c'	c'/qu/'c	c'/qu/'c	k'	k'
h	-	-	h	h ²
j	h	j	x	j
l	l/ll	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
q	k	k	q	q
q'	k'/'k	k'	q'	q'
r	r	r	r	r
s	s	s	s	s
š	x	x	š	x
t	t	t	t	t
t'	-	t'	t'	t'
ɛ	tz	tz	ɛ	tz
ɛ'	tz'/'tz	tz'	ɛ'	tz'
č	ch	ch	č	ch
č'	ch'/'ch	ch'	č'	ch'
w	vu/v	w	w	w
y	y	y	y	y
a	a	a	a/ǎ	a
aa	-	-	-	a:
e	e	e	e/ě	e
ee	-	-	-	e:
ʌ	-	ä	-	ä ³
i	i	i	i/ɪ	i
ii	ii	-	-	i:
o	o	o	o/ö	o
oo	oo	-	-	o:
u	u	u	u/ů	u
uu	-	-	-	u:

¹rare ²only word-final

³this vowel is part of a six-vowel system in Totoncapán; not present in Kaufman's other Quiche dialects

SACAPULTEC

JMD

Kaufman
(1976)

'
b
c
c'
cy
cy'
j
l
m
n
ŋ
q
q'
r
s
š
t
t'
ɛ
ɛ'
č
č'
w
y

a
aa
e
ee
i
ii
o
oo
u
uu

7
b'
k
k'
ky
ky'
j
l
m
n
-nh
q
q'
r
s
x
t
t'
tz
tz'
ch
ch'
w
y

a
a:
e
e:
i
i:
o
o:
u
u:

SIPACAPA

JMD	Kaufman (1976)
'	7
b	b'
c	k
c'	k'
cy	ky
cy'	ky'
j	j
l	l
m	m
n	n
q	q
q'	q'
r	r
s	s
š	x
t	t
t'	t'
ɛ	tz
ɛ'	tz'
č	ch
č'	ch'
w	w
y	y
a	a
aa	a:
e	e
ee	e:
i	i
ii	i:
o	o
oo	o: ¹
u	u
uu	u:

¹o: is listed in the phoneme chart, but does not appear in the data

TECO

JMD	Kaufman (1969)	Kaufman (1976)
'	ʔ	ʔ
b	b ¹	b'
c	k	k
c'	k'	k'
h	h ²	-
j	x	j
l	l ³	l
m	m ⁴	m
n	n ⁴	n
p	p	p
q	q	q
q'	q'	q'
r	r ^{2,3}	r
s	s	s
š	š ²	xh
š'	š'	x
t	t	t
t'	t' ²	t'
e	c	tz
e'	c'	tz'
č	č	ch
č'	č'	ch'
ç	ç	tx
ç'	ç'	tx'
w	w ³	w
y	y ³	y
a	a	a
aa	a·	a:
e	e	e
ee	e·	e:
i	i	i
ii	i·	i:
o	o	o
oo	o·	o:
u	u	u
uu	u·	u:

¹b' = [p'] "syllable finally" ²"marginal"

³voiceless "in word-final position" ⁴n = [ŋ] "before /ʔ/"

NB: Kaufman 1976 also lists *ky* and *ky'* as phonemic (my /cy/, /cy'/)

TOJOLABAL

JMD	Berendt (1870)	Stoll (1884, 1887)	Sapper (1897)	Seler (1901)
'	-	-	-	-
b	b	b	b	b
c	k	c/qu	c/qu	c/qu
c'	ḳ	qu'/'c	-	-
(h)	h ¹	-	-	-
j	j	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	-
p	p	p	p	p
(p')	-	-	-	-
q	-	k	k	k
q'	-	k'/'k	k'/'k	k'/'k
r	r ¹	-	-	r
s	s	s	s	z
š	x	x	x	x
t	t	t	t	t
t'	-	-	-	-
ɛ	ts	tz	tz	tz
ɛ'	tṣ	tz'	tz'	'tz ²
č	tx	ch	ch	ch
č'	tx̣	ch'	ch'	ch'
w	-	vu	vu	w
y	y	y	y	y
a	a/ā/ǎ	a	a	a/ā
aa	aa	aa	aa	aa
e	e/ē	e	e	e/ē
ee	-	-	-	-
ʌ	o	ä/ö	ä/ö	-
i	i/ī	i	i	i/ī
ii	-	ii	ii	-
o	o/ō/ǒ	o	o	o/ō
oo	oo	oo	oo	oo
u	u/ū/ǔ	u	u	u/ū
uu	-	-	-	-

¹rare ²final position only; limited data

TOJOLABAL

JMD	La Farge (1927, 1931)	Basauri (1931)	Jackson & Supple (1952)
'	'	' ⁴	'
b	b	b	-
c	k	k	c/qu
c'	k'	-	c'/q'u
(h)/(H)	h/H ¹	-	-
j	x	j	j
l	l	l	l
m	m	m	m
n	n/ ⁿ	n	n
(ŋ)	ñ	ng	-
p	p	p	p
(p')	p' ²	-	p'
q	q ²	-	-
q'	-	-	-
r	r ²	-	r ⁶
s	s	s/z ⁵	s
š	c	sh	x
t	t	t	t
t'	t'	-	t'
ɛ	ts	tz/ts	ts
ɛ'	ts' ²	-	ts'
č	tc	ch/tch/tsh	ch
č'	tc'	ch'/tch'	ch'
w	w	u	hu
y	y	-	y
a	a/ \bar{a}	a	a
aa	aa	aa	aa
e	e/ \bar{e}	e	e
ee	ee	ee	ee
ʌ	O/E/e ³	-	-
i	i	i	i
ii	ii	ii	-
o	o/ \bar{o}	o	o
oo	oo	oo	oo
u	u	u	u
uu	uu	uu	uu

¹H is "an intensified h-sound"

²rare

³only 1931 has e

⁴glottalization is also marked by a^a, e^e, etc (= [a'a], [e'e], etc.)

⁵value of z unclear; may be [θ]

⁶mainly in Spanish loans

TZELTAL

JMD	Ara/Guzman (1571/1616)	Stoll (1884, 1887)	Sapper (1897)	La Farge & Blom (1927)
'	-	-	-	'
b	b	b	b	b
c	c/qu	c/qu	c/qu	k
c'	-	c/'c	-	k'
h/(H)	h	-	-	h/H ¹
j	gh	j	j	x
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	ñ ²
p	p	p	p	p
(p')	-	-	-	-
(q)	-	k	k	q ²
(q')	-	k/'k	k/'k	-
r	-	-	-	r ²
s	z	s	s	s
š	x	x	x	c
t	t	t	t	t
t'	-	-	-	t'
ɛ	tz	tz	tz	s
ɛ'	-	tz/'tz	tz/'tz	ts' ²
č	ch	ch	ch	tc
č'	-	ch/'ch	ch'	tc'
w	-	vu	vu	w/v
y	y	y	y	y
a	a	a	a	a/ā
aa	-	aa	aa	aa
e	e	e	e	e/ě
ee	-	-	-	ee
(ʌ)	-	ö	ö	E/O
i	i	i	i	i
ii	ii	ii	ii	ii
o	o	o	o	o/ō/ǒ
oo	-	oo	oo	oo
u	u	u	u	u/ū/ǔ
uu	uu	-	uu	uu

¹H is "an intensified *h*-sound"²rare

TZELTAL

JMD	Slocum (1953)	Slocum & Gerdel (1965)
,	,	,
b	b	b
c	k	c/qu
c'	k'	c'/q'u
h	-	h
j	j	j
l	l	l
m	m	m
n	n	n
(ŋ)	-	-
p	p	p
(p')	-	p'
(q)	-	-
(q')	-	-
r	r ¹	r ¹
s	s	s
š	x	x
t	t-	t
t'	t'	t'
ɛ	ts	ts
ɛ'	ts'	ts'
č	ch	ch
č'	ch'	ch'
w	w	w
y	y	y
a	a	a
aa	-	-
e	e	e
ee	-	-
(ʌ)	-	-
i	i	i
ii	-	-
o	o	o
oo	-	-
u	u	u
uu	-	-

¹rare

TZOTZIL

JMD	Stoll (1884)	Sapper (1897)	Seler (1901)	Starr (1902)
'	-	-	-	-
b	b	b	b	b
c	c/qu	c	c/qu	c/qu
c'	c'/'c	-	k	-
(h)	-	-	-	h
j	j	j	h	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
p'	-	-	-	-
(q)	k	k	-	-
(q')	k'/'k	k'/'k	-	-
r	-	-	r	r ³
s	s	s	z	s/z
š	x	x	x	sh/x
t/(θ)	t	t	t	t/th
t'	-	-	t'	-
ɛ	tz	tz	tz	tz/zt
ɛ'	tz'/'tz	tz'/'tz	'tz ¹	-
č	ch	ch	ch	ch
č'	ch'/'ch	ch'	ch'	-
w	vu/v	vu/v	w	v/gu/gū/gü
y	y	y	y	y/ll
a	a	a	a/ā/ā ²	a/ā/ā/ä
aa	aa	-	aa	-
e	e	e	e/ē	e/ē/ě
ee	ee	ee	-	-
(ʌ)	ö	-	-	-
i	i	i	i/ī	i/ī/ɪ
ii	ii	ii	-	-
o	o	o	o/ō	o/ō
oo	oo	oo	oo/ōo/ōo	ōō
u	u	u	u/ū	u/ū
uu	uu	-	ūu	-

¹final only; twice

²value of ā unclear; once only

³rare

TZOTZIL

JMD	Weathers (1949)	Weathers & Weathers (1949)	Cowan (1956)	Delgaty (1964)
'	?	'	'	'
b	b	b	b	b
c	k	k	k	c/qu
c'	k'	k'	k'	c'/q'u
(h)	-	-	-	-
j	j	j	j	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
p'	p'	p'	p'	p'
(q)	-	-	-	-
(q')	-	-	-	-
r	r ¹	r	r	r ¹
s	s	s	s	s
š	š	x	x	x
t	t	t	t	t
t'	t'	t'	t'	t'
é	é	ts	ts	ts
é'	é'	ts'	ts'	ts'
č	ch	ch	ch	ch
č'	ch'	ch'	ch'	ch'
w	v	v	v	v
y	y	y	y	y
a	a	a	a	a
aa	-	-	-	-
e	e	e	e	e
ee	-	-	-	-
(Λ)	-	-	-	-
i	i	i	i	i
ii	-	-	-	-
o	o	o	o	o
oo	-	-	-	-
u	u	u	u	u
uu	-	-	-	-

¹rare

JMD

Laughlin
(1975)

'
b
c
c'
(h)
j
l
m
n
p
p'
(q)
(q')
r
s
s'
t
t'
e
e'
č
č'
w
y

a
aa
e
ee
(Λ)
i
ii
o
oo
u
uu

?
b
k
k'
-
h
l
m
n
p
p'
-
-
r
s
s'
t
t'
e
e'
č
č'
v
y

a
-
e
-
-
i
-
o
-
u
-

TZUTUJIL

JMD	Sapper (1897) ¹	Stoll (1901)	Grimes (1968)	Campbell (1971)
'	-	-	ʔ	ʔ
b	b	b	b	b'
c	c/qu	c/qu	k	k
c'	c'/qu'	c'/qu'/'c	k'	k'
h	h	-	-	h
j	j	j	h	x
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
q	k	k	q	q
q'	k'/'k	k'/'k	q'	q'
r	-	r	r	r
s	s	s	s	s
š	x	x	\$	š
t	t	t	t	t
t'	-	-	t' ²	d'/dʔ ⁴
ɛ	tz	tz	ɛ	ɛ
ɛ'	tz'/'tz	tz'/'tz	ɛ'	ɛ'
č	ch	ch	c	č
č'	-	ch'/'ch	c'	č'
w	v	vu	w	w
y	y	y	y	y
a	a	a	a/a ³	a/ã
aa	-	-	-	-
e	e	e	e	e/ẽ
ee	-	-	-	-
i	i	i	i/i ³	i/ɪ
ii	-	-	-	-
o	o	o	o	o/õ
oo	-	-	-	-
u	u	u	u	u/ũ
uu	-	-	-	-

¹limited data ²voiced; rare ³a, i are "open vowels"; the others are "close" ⁴imploded; rare

NB: Palatalization is marked by *ky*, *guy/gu'y*, *kʔ/kʔ'*, and *ky* in 1897, 1901, 1968 and 1971, respectively.

TZUTUJIL

JMD | Kaufman
(1976)

'	7
b	b'
c	k
c'	k'
h	-
j	j
l	l
m	m
n	n
p	p
q	q
q'	q'
r	r
s	s
š	x
t	t
t'	d' ¹
ɛ	tz
ɛ'	tz'
č	ch
č'	ch'
w	w
y	y
a	a
aa	aa
e	e
ee	ee
i	i
ii	ii
o	o
oo	oo
u	u
uu	uu

¹in phoneme list, but not in data

USPANTEC

JMD	Stoll (1884, 1896)	Sapper (1897)	Campbell (1971)	Kaufman (1976)
'	-	'1	ʔ/'	ʔ
b	b	b	b'	b'
c	c/qu	c/qu	k ³	k ⁴
c'	c'/qu'/'c	c'/qu'/'c	k ³	k ⁴
h	-	h ²	h	-
j	j	j	x	j
l	l/ll	l/ll	l	l
m	m	m	m	m
n	n	n	n	n
p	p	p	p	p
q	k	k	q	q
q'	k'/'k	k'/'k	q'	q'
r	r	r	r	r
s	s	s	s	s
š	x	x	š	x
t	t	t	t	t
t'	-	-	t'	t'
ɕ	tz	tz	ɕ	tz
ɕ'	tz'/'tz	tz'/'tz	ɕ'	tz'
č	ch	ch	č	ch
č'	ch'/'ch	ch'/'ch	č'	ch'
w	vu/v	vu/v	w	w
y	y	-	y	y
a	a	a	a/ã	a
aa	-	-	-	aa
e	e	e	e/ě	e
ee	-	-	-	ee
i	i	i	i/í	i
ii	-	-	-	ii
o	o	o	o/õ	o
oo	oo ¹	oo ¹	-	oo
u	u	u	u/ũ	u
uu	-	-	-	uu

¹once only ²twice ³palatalization is marked by *ky* and *k'y*
⁴*k* and *k'* are "palatalized before front vowels"

YUCATEC

JMD	Motul (1590)	Vienna (1600)	Ticul/Perez (1690/1898)	Beltran/Perez (1746/1898)
'	-	-	-	-
b	b	b	b	b
c	c	c	c	c
c'	k	k	k	k
(h)	h ¹	-	-	-
j	h ²	h	h	h
l	x	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	-
p	p	p	p	p
p'	pp	pp	ɸ	ɸ
(q)	-	-	-	-
(q')	-	-	-	-
r	-	-	-	-
s	ç/z	ç/z	z	z
š	x	x	x	x
t	t	t	t	t
t'	th/th	th	th	th
é	tz	tz	tz	tz
é'	ɔ	ɔ	ɔ	ɔ
č	ch	ch	ch	ch
č'	ch	ch	ch	ch
w	v	u	u	u
y	y	y	y	y
a	a	a	a	a
aa	aa	aa	aa	aa
e	e	e	e	e
ee	ee	ee	ee	ee
i	i	i/y	i/y	i
ii	ij	ij	ii	ii
o	o	o	o	o
oo	oo	oo	oo	oo
u	u/v	u	u	u
uu	uu	uu	uu	uu

¹"h rezia"; Berendt uses *ñ* ²"h simple"; Berendt uses *ñ*

YUCATEC

JMD	Perez (1866-77)	Stoll (1884, 1887)	Carrillo y Ancona (1893)	Sapper (1897)
'	-	-	-	-
b	b	b	b	b
c	c	c/qu	c	c/qu
c'	k	c'/q'u/'c	k	c'
(h)	-	-	-	-
j	h	j	h/j ¹	j
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	-
p	p	p	p	p
p'	pp	-	p/pp/p̄	-
(q)	-	k	-	k
(q')	-	k'/'k	-	k'/'k
r	-	-	-	-
s	z	s	s/z	s
š	x	x	x	x
t	t	t	t	t
t'	th	-	tđ/d/tV/dt	-
ɛ	tz	tz	tz	tz
ɛ'	ɔ	tz'/'tz	ɔz/ɔ	tz'/'tz
č	ch	ch	ch	ch
č'	ch̄	ch'/'ch	ch̄	ch'/'ch
w	u	vu/v	hu/v	vu/v
y	y	y	ll	y
a	a	a	a	a
aa	aa	aa	aa	aa
e	e	e	e	e
ee	ee	ee	ee	ee
i	i	i	i/y	i
ii	ii	ii	ii	-
o	o	o	o	o
oo	oo	oo	oo	oo
u	u	u	u	u
uu	uu	uu	uu	uu

¹j is very rare

YUCATEC

JMD	Zavala & Medina (1898)	Starr (1902)	Becerra (1934)	Fisher (1973)
'	-	-	-	?
b	b	b	b	b'
c	c	c	k	k
c'	k	k	-	k'
(h)	-	h/h ^h	-	-
j	h	χ/x	j	h
l	l	l	l	l
m	m	m	m	m
n	n	n	n	n
(ŋ)	-	-	-	ŋ ¹
p	p	p	p	p
p'	p	-	-	p'
(q)	-	-	-	-
(q')	-	-	-	-
r	-	-	-	r ²
s	s/z	s	-	s
š	x	x/sh	sh	š
t	t	t	t	t
t'	th	-	-	t'
é	-	tz/ts	-	é
é'	ɔ	ɔ	-	é'
č	ch	ch/tch	ch	č
č'	ch	-	-	č'
w	u	w	hu/gü	w
y	y	y	-	y
a	a	a/ā/ä	a	a
aa	aa	-	aa	aa
e	e	ē/ě	e	e
ee	ee	-	ee	ee
i	i/y	i/ī	i	i
ii	ii	-	-	ii
o	o	o/ō	o	o
oo	oo	-	-	oo
u	u	u/ū/ü	u	u
uu	uu	ūū	uu	uu

¹/ŋ/ "does not appear on the underlying level in Yucatec"

²"there are an extremely small number of items with /r/ which are apparently native words"

YUCATEC

JMD	Blair & V.-Salas (1975)	Bolles (1981)
'	7/'	'
b	b'	b
c	k	c
c'	k'	c'
(h)	-	-
j	h	j
l	l	l
m	m	m
n	n	n
(ŋ)	-	-
p	p'	p'
p'	p'	p'
(q)	-	-
(q')	-	-
r	r ¹	r
s	s	s
š	š	š
t	t	t
t'	t'	t'
ɛ	z	ɛ
ɛ'	z'	ɛ'
č	c	č
č'	c'	č'
w	w	w
y	y	y
a	a	a
aa	aa	aa
e	e	e
ee	ee	-
i	i	i
ii	ii	ii
o	o	o
oo	oo	oo
u	u	u
uu	uu	uu

¹in loan-words