RECONSTRUCTION OF PROTO-ATAYALIC PHONOLOGY

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1. INTRODUCTION

1. 1 The Atayalic Group

The Atayalic group of Formosan languages occupies the northern half of Taiwan, covering eight counties. It is comprised of Atayal and Sediq, each with many dialects of its own.[1] Atayal, in turn, consists of two major dialects, Squliq and Cʔuliʔ (TsʔoIe). Since Squliq dialects are all fairly uniform, whereas Cʔuliʔ dialects can be quite divergent from each other, only one Squliq, Pyasan, will be represented and several Cʔuliʔ dialects, Maspaziʔ, Skikun, Mnawyan, Mayrinax, Matabalay and Palŋawan will be included in this study. The Sediq dialects, Toŋan, Toda, Truwan and Inago, which are not completely uniform, but also not very divergent, will be represented. I have collected in the field extensive lexical materials for all the above dialects and some texts for some of the Atayal dialects included in this report[2]. See Appendix II: "List of Dialects

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2. I did my field work on these dialects off and on between December 1978 and November 1980. Except for Pyasan, my field investigations were all conducted in the native villages, and I visited each of these villages from two to four times for all the important dialects included in this study.

Included in This Study" for their location and subgrouping.

The term "Atayal" is reserved for Atayal proper, referring only to Atayal dialects, and "Atayalic" for the entire group, including Atayal and Sediq, in this study.

In the Atayalic group, Mayrinax is by far the most conservative dialect and hence the most valuable for historical reconstruction. Matabalay is valuable in its reflexes for Proto-Atayalic word-final voiced stops; see §2. 7—2. 9. Squliq and Palŋawan are the most innovative.

1. 2 Previous Studies on Synchronic Atayalic Phonologies

The phonological structure of Atayal was first studied by Ogawa and Asai 1935: 21-22, and then by Egerod 1966, Hirano 1972, Yamada and Liao 1974, all based on the Squliq subgroup and using a structural approach. Later, I used a generative approach to study the Pyasan dialect of Squliq (Li 1980a) and in it also described the differences in Atayal dialects, including Maspaziʔ, Skikun, Mayrinax, Matabalay and Sakuxan, all in the Cʔuliʔ subgroup. The morphophonemic alternations in these dialects were described in some detail and illustrated with examples. The phonological rules in the different dialects were found to be related and these parallels were indicated. This study also showed the linguistic value of Skikun, Mnawyan and Mayrinax for comparative study.

The Toda (Paran) dialect of Sediq was studied in great detail by Yang 1976 using the generative approach. [3] As there are significant dialectal differences in Sediq, I have included four dialects in this study.

The following is a brief summary of the sound systems of all the dialects included in this comparative study.

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3. Yang's 1976 phonetic description is generally accurate except for a few minor corrections: (1) /h/ is pharyngeal rather than "glottal" fricative (p. 618, 620, 632). (2) /miric/ 'sheep,' not /milic/ (p. 619). (3) /ƕlámaʔ/ 'candy,' not /xuláma/ (p. 634, no. 87). (4) All pretonic vowels before penult are phonetic rather than phonemic; see Li 1977: 393-96 for the alternative analysis. (5) The morphophonemic alternation l~n (Yang 1976: 650-51) is found only in the speech of younger speakers, not in that of older speakers. (6) The glottal stop in word-initial and final position is phonemic rather than phonetic.

Squliq: /p, t, k, q, ?, b, -, g, (c),[4] s, x, h, z

Maspazi?:   /p, t, k, -, ?, b, -, g, -, s, x, h, z

Skikun   }: /p, t, k, q, ?, b, -, g, c, s, x, h, -
Mnawyan

Mayrinax: /p, t, k, q, ?, b, -, g, c, s, x, h, -

Matabalay: /p, t, k, -, ?, b, -, g, -, s, x, h, z

Palŋawan: /p, t, k, -, ?, b, -, g, c, s, x, h, -

Toŋan: /P, t, k, q, ?, b, d, g, c, s, x, h, -

Toda: /p, t, k, q, ?, b, d, -, c, s, x, h, -

Truwan: /p, t, k, ?, ?, b, d, g, (c), s, x, h, -

Inago: /p, t, k, q, ?, b, d, g, (c), s, x, h, -

Squliq: /l, r, -, m, n, ŋ, w, y, i, u, e, o, a/

Maspazi?:   /l, r, -, m, n, ŋ, w, y, i, u, -, -, a/

Skikun   }: /l, r, -, m, n, ŋ, w, y, i, u, e, o, a/
Mnawyan

Mayrinax: /l, r, -, m, n, ŋ, w, y, i, u, -, -, a/

Matabalay: /l, r, -, m, n, ŋ, w, y, i, u, -, -, a/

Palŋawan: /l, r, r̃, m, n, ŋ, w, y, i, u, e, o, a/

Toŋan: /l, r, -, m, n, ŋ, w, y, i, u, e, o, a/

Toda: /l, r, -, m, n, ŋ, w, y, i, u, ə, o, a/

Truwan: /l, r, -, m, n, ŋ, w, y, i, u, ə, o, a/

Inago: /l, r, -, m, n, ŋ, w, y, i, u, ə, o, a/

There are a number of significant linguistic variations among speakers of different age groups in various Atayalic dialects. These variations have important historical implications for sound changes in the group. See Li (forthcoming) "Linguistic Variations of Different Age Groups in the Atayalic Dialects" for a detailed account. Transcriptions for the dialectal materials in this report are for the most part based on older speakers.

1.3 Phonetic Description

1.3.1 Consonants

The voiceless stops /p, t, k, ?/ occur in all dialects. The word-final /-t/

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4. The consonant in parentheses (c) is distributionally defective in that it occurs only before /i/ or /y/ and word-finally. It may be treated as a phonetic variant of /t/ in these dialects.

is replaced by the affricate /-c/ in the speech of younger speakers in many dialects. [5]

The voiceless uvular stop /q/ occurs in most dialects, but not in Maspaziʔ, Matabalay, Palŋawan or Truwan.

The voiceless pharyngealized stop /ʔ/ occurs in Truwan, Bʔalaʔ and Pakaliʔ 八卦村，the dialect most closely related to Mayrinax, as based on some speakers.

/b/ and /g/ are more commonly voiced fricatives [β] and [ɣ] respectively in all Atayal dialects, but voiced stops [b] and [g] respectively in all Sediq dialects. The bilabial fricative [β] is replaced by labiodental [v] in the speech of younger speakers.

/d/ occurs only in Sediq dialects. It is palatalized as /j/ [dž] before /i/ or /y/ in Truwan and Inago, just as /t/ is palatalized as /c/ in these dialects as well as in Squliq, Skikun and Mnawyan.

/c/ is the alveo-palatal affricate [tš], which does not appear in Maspaziʔ or Matabalay.

/s, z/ are the alveopalatal fricatives [š, ž] respectively. The latter appears only in Squliq, Maspaziʔ and Matabalay.

/x, h/ are voiceless velar and pharyngeal fricatives respectively.

/l/ is the lateral fricative [ɬ] in all dialects. The word-final [-ɬ] is replaced by [-n] in the speech of younger speakers in all dialects.

/r/ has the free variants [ɾ] flap and [r̃] trill, depending on the dialect and individual speaker.

In addition to /l, r/, Palŋawan has a third liquid /r̃/, a trill, which is phonemically distinct from the flap /r/ [ɾ], retroflex [ɻ] or retroflexed fricative [ʐ].

1. 3. 2 Vowels and Stress

Some dialects, i. e. Maspaziʔ, Mayrinax and Matabalay, have only three vowels /i, u, a/. Some have five vowels /i, u, e, o, a/, as in Squliq, Skikun, Palŋawan and Toŋan, or /i, u, ə, o, a/, as in most Sediq dialects.

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5. For a detailed description of age differences in speech and their historical implications, see Li (forthcoming) "Linguistic Variations of Different Age Groups in the Atayalic Dialects."

The mid vowels /e, o/ are phonetically [ɛ, ɔ] respectively, especially those historically derived from the diphthongs /ay, aw/ respectively.

All Sediq dialects share the same vowel-deletion rule before stress, which generally falls on the penultimate syllable. In fact, vowel-deletion or weakening in the unstressed syllables is a common phonological feature in the entire Atayalic group except for a few conservative dialects, such as Mayrinax and Matabalay.

One vowel, retained in some forms (only *i historically derived from the infix *-in-) is retained in the syllable before the main stress even in the most innovative dialects. For example, in Squliq: /s-in-qlaŋ-án/ 'was troubled,' /c-in-gyut-án/ 'was taken turns,' /s-in-lhag-án/ 'was pleased.' Such forms all contain the infix -in-.

In general, all unstressed vowels before stress are reduced to the schwa [ə] in every dialect except Toŋan and Maspaziʔ. In Toŋan they are reduced to phonetic [u], e. g. [q-um-íyuc] 'bite,' [buɬébiɬ] 'banana,' and in Maspaziʔ, they are replaced by vowel [a], e. g. [k-am-aát] 'bite,' /tala-ʔíy/ 'eel.'

A phonetic vowel [ə] generally occurs between consonants in nearly every dialect in the entire group except Toŋan. For example, /qhoniq/ [qəɬɔːníeq] 'tree' in Squliq, Skikun and Mnawyan, /pnsŋus/ [pənsəŋús] 'horse bean' in Maspaziʔ, /kgiy/ [kəɡíː] 'hemp plant' in Mayrinax, /stapuŋan/ [šətapuːŋán] 'moss' in Matabalay, /ʔamgal/ [ʔaməɣáɬ] 'flea' in Palŋawan, /bləbul/ [bɬə́buɬ] 'banana' in Toda, Truwan and Inago.

In Atayal dialects, stress falls on the final or penultimate syllable, depending on the individual dialect as well as individual speaker. It may occasionally vary from item to item.

1.4 Distribution

All consonants except /x/ occur word-initially in all dialects; /x-/ occurs only in a few forms in a few dialects. Skikun /x-/<*g- [ɣ-] occurs in a number of forms, especially in the speech of younger speakers.

The labials /p, b, m/ do not occur word-finally in Sediq dialects, Palŋawan, Bʔalaʔ, Mstbaun, and younger speakers of Skikun and Mnawyan. In fact, /-b/ is retained only in Mayrinax and Mabatuʔan. The dental stops /t, d/ do not occur

word-finally in Sediq dialects. /t/ does not appear word-finally in Skikun, Mnawyan or Palŋawan, nor before /i/ or /y/ in Squliq, Skikun or Mnawyan. /d/ appears only word-initially and medially in Sediq.

/g/ occurs word-finally in Mayrinax, Mabatuʔan, Matabalay, Truwan and Inago, but not in the other dialects.

/z/ may not occur word-finally in Squliq, Maspaziʔ or Matabalay.

/r/ may not occur word-finally in Squliq. It appears word-finally in a few forms in all Cʔuliʔ dialects except Palŋawan, in which it appears rather frequently.

/x/ does not occur word-initially in most dialects. It occurs word-initially only rarely in a few Atayal dialects, e. g. /xuxuʔ/ 'breasts' in Mayrinax, /xuyil/ 'dog' in Mayrinax, Matabalay and Sakuxan, and /xiluy/ 'iron' in all the Sediq dialects included in this study.

The diphthongs /ay, aw/ may not occur in non-final syllables in all dialects except Maspaziʔ, Mayrinax, Matabalay and Sakuxan.

1. 5 Morphophonemic Alternations

The Atayalic dialects share the following morphophonemic alternations (see Li 1980a: 385-87):

(1) b~p in all Atayal dialects except Mayrinax and Palŋawan, and b~k in all Sediq dialects and Palŋawan. Both of these alternations are historically derived from Proto-Atayalic (PA) *b; see §2. 6.

(2) g~w in all Atayal dialects except Skikun, Mnawyan and Mayrinax, and in all Sediq dialects except Toda and Inago, historically derived from PA *g; see §2. 8.

(3) r~y in all Squliq dialects, r̃~y in Palŋawan alone, s~g in Matabalay alone and s~y in most Cʔuliʔ dialects except Matabalay, Palŋawan, Skikun and Mnawyan. These four types of alternations are etymologically related and are derived from PA *-g'<PAN *-g'; see §2. 9.

(4) z~y in Squliq and Maspaziʔ, historically derived from PA *r<PAN *1; see §2. 14.

(5) t~c in all dialects for younger speakers: t ⟶ c/___i in Squliq, Skikun

and Mnawyan, and t ⟶ c/___# in Skikun, Mnawyan, Palŋawan, and all Sediq dialects, historically derived from PA *t; see §2. 2.

(6) d∼c in all Sediq dialects, historically derived from PA *d; see §2. 7. See Yang 1976: 649–50 for examples in Toŋan.

(7) c∼t in Mayrinax, s∼t in Matabalay, Sakuxan and Maspazi?, historically derived from PA *c < PAN *c; see §2. 10.

(8) 1∼n in all dialects for younger speakers, historically derived from PA *1 < PAN *ł.

(9) ay∼e and aw∼o in Toŋan; see Yang 1976: 651–52.

In all these alternations, the first member /b, b, g, r, r̃, s, s, z, t, d, c, s, 1, ay, aw/ appears in word-medial position, i. e. in the stem-final followed by a suffix, whereas the second member /p, k, w, y, y, g, y, y, c, c, t, t, n, e, o/ appears in word-final position.

1. 6 Men's and Women's Speech in Mayrinax

Of all Formosan languages and dialects, Mayrinax in the only known dialect that shows certain well-defined differences between the speech of men and of women. In general, women's speech retains older lexical forms, whereas men's speech turns out to have innovative ones. Women's forms generally preserve CVCVC, a typical Austronesian word structure, whereas men's forms may have some type of suffix or infix added, the intervocalic consonant /g/ deleted, vowel /a/ or /i/ inserted, the final consonant or syllable replaced, an initial or medial consonant replaced, and so on. It is clear that the women's forms are archaic and basic while the corresponding men's forms are innovative and derived.

These differences are better preserved in the speech of older speakers. Younger speakers tend not to know the differences and mix them up in their speech.

Men and women share essentially the same vocabulary stock. Of the approximately 1, 500 lexical items which I have collected, only about 80 items differ in form, but the men's form and the women's form for a particular item mostly shares the same root.

The majority of the men's forms in Mayrinax are the ones currently used in

the other Atayalic dialects, which do not distinguish between male and female speech. For example, the lexical forms in Skikun, which are mostly derived from the men's forms are cited side by side below for comparison. If the Skikun forms are not cognates or if they are derived from the women's forms, then the Maspaziʔ forms which are derived from the men's speech are given. It is interesting to note that various dialects may differ in adopting either the men's or women's forms. There is no way of predicting which form will be adopted by a certain dialect. Generally speaking, men's forms are adopted more widely than women's forms. [6] Given below are some typical examples (see also Appendix I: List of Atayalic Cognates):

		Women	Men	Skikun	Proto-forms
1.	'fire'	hapuy	hapu-niq	pu-niq	PAN *hapuy[7]
2.	'road'	raan	ran-iq	ryan-iq	PAN *dʼalan
3.	'tattoo'	matas	matiq	matas	PFN *matas
4.	'dig'	k-um-aiʔ	k-um-ai-huw	k-m-e-huy	PAN *kali
5.	'raw'	mataq	mat-il-uq	mt-el-uq	PAN *ma(n)taq
6.	'drunk'	ma-busuk	bus-in-uk	m-s-in-uk	PAN *mabusuk
7.	'sit'	man-tahuuk	ma-thaw-na-k	tahu-na-k	
8.	'needle'	ragum	raum	rom	PAN *dʼagum
9.	'hunt'	q-um-alup	q-um-alu-a-p	q-m-alup	PAN *qałup
10.	'mortar'	luhuŋ	luh-i-uŋ	⎰luhuŋ (Sk)⎱luh-i-uŋ(Ms)	PAN *łətʼuŋ
11.	'weave'	t-um-inun	t-um-inuq	t-m-inun	PAN *tinun
12.	'gray hair'	quras	quriʔ	ʔi-quriʔ	PFN *qudas
13.	'sew'	c-um-aqis	c-um-aʔiŋ	c-m-aqis	PAN *casiq

6. I worked with a 50 year-old male speaker of Paʔnakualiʔ (or Pakaliʔ) 八卦 dialect, the dialect most closely related to Mayrinax, in 1980 and found, to my surprise, that he used mostly the female forms although he was aware of the fact that "old people make a distinction between men's and women's speech."

7. The proto-forms are cited from the following different sources: Wurm and Wilson 1975, Tsuchida 1976, as well as a few reconstructions of my own. Abbreviations are as follows: PAN, Proto-Austronesian; PHN, Proto-Hesperonesian (based on Tsuchida); PFN, Proto-Formosan (based on Tsuchida). I have left out all subscripts in Tsuchida's reconstructions and chosen to use mostly Dempwolff's symbols; see §3.

14.	'head louse'	kucuʔ	kuhiŋ	kuhiŋ	PAN *kucu
15.	'tooth'	gipun	giʔnux	{ pn-iq (Sk) / gaʔa-nux (Ms)	PAN *[']ipən
16.	'wide'	gilahaŋ	ʔilahaŋ	glabaŋ	

A careful comparison between the men's and women's forms can help account for many unusual derivations, i. e. the morphological structure, in the Atayalic group. It is not known what functions these affixes have in the men's speech nor how they originated. [8] It is interesting to observe that these affixes appear in a number of words in various Atayalic dialects, but not found in the proto-forms as reconstructed by Otto Dempwolff, Isidore Dyen, Otto Dahl, Robert Blust, etc. The following are a few examples of this phenomenon:

1. The suffix -nux:

   PAN *batu > batu-nux 'stone' in Mayrinax and Palŋawan, btu-nux in Skikun and Mnawyan and Sediq, tu-nux in Squliq.

2. The infix -in-:

   PFN *ḍakəs > rak-in-us 'camphor laurel' in Maspaziʔ and Sakuxan, k-n-us in Squliq, rk-n-as in Skikun and Mnawyan.

For a detailed account of the sex differences in the speech of Mayrinax, see Li 1980b.

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8. After reading my paper (Li 1980b) on the differences in the speech of the two sexes, Otto Dahl (personal correspondence) offered a plausible explanation:

   "The men's forms look like artificially changed word-forms. One could think of a sort of secret language as its origin. Here in Norway children sometimes use such deviations in order to have a secret language understood only by the 'initiated.' Is it possible that the origin in Atayal was such a secret language among men, not to be understood by women? But after having been used for a long time, such a secret language became understandable to the non-initiated also. And in the long run it became the ordinary language, first of the men, and in many dialects thereafter also of the women, because of the higher social status of the men. But in Mayrinax the women have clung to their special and archaic forms.

   This is only a guess as to what the truth may be, and is probably impossible to prove. But we can consider it a possibility which will make the Atayal development easier to understand."

   Isidore Dyen (private conversation) also offered a similar explanation and pointed out the fact that some New Guinea languages also have some similar strange affixes as in Atayal.

2. Reconstruction of Proto-Atayalic Phonology

Six Atayal dialects: Squliq (represented by Pyasan), Maspaziʔ, Skikun/Mnaw-yan, Mayrinax, Matabalay and Palŋawan, and four Sediq dialects: Toŋan, Toda, Truwan and Inago are compared in this study. [9]

A certain cognate is reconstructed for Proto-Atayalic only if it appears in both Atayal and Sediq. A few cognates are reconstructed even though they appear only in a subgroup. That is because they are derived from earlier proto-forms such as Proto-Austronesian and Proto-Formosan (PFN). See Appendix I: List of Atayalic Cognates.

2.1 The correspondence of the voiceless bilabial stop / p- / series is regular prevocalically across all the dialects in the Atayalic group:

			'lip'	'vulva'	'earwax'	'fire'	'lame'
Ata	Sq	/p-/	prahum	pipiʔ	qpuriʔ	pu-niq	pikaʔ
	Ms	/p-/	parhum-an	pipiʔ	ʔapuriʔ	pu-niʔ	ma-pikaʔ
	SK	/p-/	prahum	pipiʔ	qpuriʔ	pu-niq	pikaʔ
	Mx	/p-/	parahum	—	qapuriʔ	hapu-niq/hapuy[10]	—
	Pl	/p-/	parahuŋ	pipiʔ	ʔapuriʔ	hapu-niʔ	ma-pikaʔ
Sed	Tn	/p-/	pdahuŋ	pipiʔ	qpudiʔ	pu-niq	m-pikaʔ
	Td	/p-/	pdahuŋ	pipiʔ	qpudiʔ	pu-niq	m-pikaʔ
	Tr	/p-/	pdahuŋ	pipiʔ	ʔpujiʔ	pu-niq	m-pikaʔ
	In	/p-/	pdahuŋ	pipiʔ	qpujiʔ	pu-niq	m-pikaʔ
PA		*p-	*padahum	*pipiʔ	*qapudiʔ	*hapuy	*ma-pikaʔ

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9. The following is a list of abbreviations of languages and dialects used in this article:

Ata	Atayal	Mx	Mayrinax	Sx	Sakuxan
In	Inago	Pl	Palŋawan	Td	Toda
Mn	Mnawyan	Sed	Sediq	Tn	Toŋan
Ms	Maspaziʔ	Sk	Skikun	Tr	Truwan
Mt	Matabalay	Sq	Squliq		

10. Mayrinax distinguishes between male and female forms for some lexical items. When male and female forms exist for a cognate, they are both listed in that order and separated by the sign "/". Generally the female forms are the older forms, whereas the male forms are the innovative ones adopted by most dialects; see §1.6 and Li 1980b.

Postvocalic (or word-final) /-p/ in Atayal (excluding Palŋawan)[11] corresponds to Sediq /-k/. There are only a few examples of this (doubtful cognates are given in parentheses):

			'blow'	'seed'	'sow'
Ata	Sq	/-p/	mzyup	ghap	m-hap[12]
	Ms	/-p/	(yumup)	ga-gahap	g-m-hap
	Sk	/-p/	miyup	ghap	g-m-hap
	Mx	/-p/	ʔ-um-iyup	ga-ghap	g-um-hap
	Pl	/-k/	(yumuk)	—	—
Sed	Tn	/-k/	miyuk	(rehak)	(r-m-ehak)
	Td	/-k/	miyuk	(rəhak)	(r-m-əhak)
	Tr	/-k/	miyuk	gəhak	g-m-əhak
	In	/-k/	miyuk	gəhak	g-m-əhak
PA		*-p	*ʔiyup	*gəhap	*g-um-əhap

The change -p > -k, rather than > -t, is natural because both /p/ and /k/ have the feature [+grave].[13]

2.2 The correspondence of the /t-/ series is regular before all vowels except /i/:

			'head'	'spine'	'seven'	'full'	'vomit'
Ata	Sq	/t-/	tunux	qniʔ turuʔ	pituʔ	m-tŋiʔ	mutaq
	Ms	/t-/	tunux	turuʔ	ma-pituʔ	ma-tŋiʔ	mutaʔ
	Sk	/t-/	tunux	bqniʔ turuʔ	m-pituʔ	m-tŋiʔ	mutaq
	Mx	/t-/	tunux	—	ma-pituʔ	ma-tŋiʔ	mutaq
	Pl	/t-/	tunux	turuʔ	ma-pituʔ	ma-tŋiʔ	mutaʔ

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11. Actually in Palŋawan, Bʔalaʔ and Mstbaun dialects of Atayal in the Sediq area, and in the speech of younger speakers in Skikun and Mnawyan, they have no forms ending with /-p/; see Li 1980: 382.

12. Loss of the initial consonant in Squliq occurs mostly with the active form (with -m- or m-), less frequently with the passive forms (with -an or -un) or the imperative (with -i); see Li 1980a: 363-68.

13. According to Jakobson and Halle (1956: 31), these "peripheral phonemes (velar and labial) have an ampler and less compartmented resonator than the corresponding medial phonemes (palatal and dental)," and acoustically they both have "concentration of energy in the lower frequencies of the spectrum."

Sed	Tn	/t-/	tunux	tuduʔ	m-pituʔ	m-teŋiʔ	mutaq
	Td	/t-/	tunux	tuduʔ	m-pituʔ	m-təŋiʔ	—
	Tr	/t-/	tunux	tuduʔ	m-pituʔ	m-təŋiʔ	—
	In	/t-/	tunux	tuduʔ	m-pituʔ	m-teŋiʔ	—
PA	*t-	*tunux	*tuduʔ	*ma-pituʔ	*ma-təŋiʔ	*mutaq

Note that /qniʔ/ in Sq and /bqniʔ/ in Sk above mean 'bone.'

Before *i or *y, *t- has become /c-/ in Squliq, Skikun, Truwan and Inago:

			'crow'	'excrement'	'knife'	'fart'	'knock'
Ata	Sq	/c-/	cyaquŋ	quciʔ	—	t-quciʔ	t-m-uciŋ
	Ms	/t-/	—	ʔutiʔ	putiŋ	ta-ʔutiʔ	t-m-utiŋ
	Sk	/c-/	cyaquŋ	quciʔ	—	—	t-m-uciŋ
	Mx	/t-/	—	qutiʔ	—	tigi-qutiʔ	t-um-utiŋ
	Pl	/t-/	teʔuŋ	ʔutiʔ	putiŋ	ti-ʔutiʔ	t-um-utiŋ
Sed	Tn	/t-/	tyaquŋ	qutiʔ	—	t-qutiʔ	t-m-utiŋ
	Td	/t-/	tyaquŋ	qutiʔ	putiŋ	t-qutiʔ	t-m-utiŋ
	Tr	/c-/	cyaʔuŋ	ʔuciʔ	puciŋ	t-ʔuciʔ	t-m-uciŋ
	In	/c-/	cyaquŋ	quciʔ	puciŋ	quciʔ	t-m-uciŋ
PA	*t-	*tyaquŋ	*qutiʔ	*putiŋ	*ti-qutiʔ	*t-um-utiŋ

In all dialects except Squliq, Mayrinax and Maspaziʔ, *-t has become /-c/ word-finally:

			'fang'	'side dish'	'flying squirrel'	'eight'	'not exist'	
Ata	Sq	/-t/	waqit	ramat	yapit	spat	ʔuŋat	—
	Ms	/-t/	waʔit	ramat	yapit	ma-sapat	ʔuŋat	—
	Sk	/-c/	waqic	ramac	yapic	spac	—	ʔukaʔ
	Mx	/-t/	waqit	ramat	ʔapit[14]	ma-spat	—	(ʔukas)
	Pl	/-c/	wa-waʔic	ra-ramac	rapic	ma-spac	ʔuŋac	—
Sed	Tn	/-c/	waqic	damac	rapic	m-m-sepac	—	ʔukaʔ
	Td	/-c/	waqic	damac	rapic	ma-səpac	—	ʔukaʔ
	Tr	/-c/	waʔic	damac	rapic	ma-səpac	ʔuŋac	—
	In	/-c/	waqic	damac	rapic	ma-səpac	ʔuŋac	—
PA	*-t	*waqit	*damat	*rapit	*ma-səpat	*ʔuŋat	*ʔukaʔ

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14. PAN *1 > PA *r > ʔ/#_____a in Sahiyaŋ; see §2.14 and note 21.

2.3 The correspondence of /k/ is uniform in all positions throughout the entire group:

			'molar'	'when'	'year'	'stink'	'soft'
Ata	Sq	/k/	karaŋ	knwan	kawas	sknux	m-hnuk
	Ms	/k/	—	knuwan	—	—	m-hnuk
	Sk	/k/	—	knwan	kawas	skunux	m-hnuk
	Mx	/k/	—	kanuwan	—	—	ma-hnuk
	Pl	/k/	—	kanwan	—	sakanux	ma-hnuk
Sed	Tn	/k/	kadaŋ	knuwan	kawas	skenux	m-henuk
	Td	/k/	kadaŋ	knuwan	kŋ-kawas	skənux	m-hənuk
	Tr	/k/	kadaŋ	knuwan	kawas	skənux	m-hənuk
	In	/k/	kadaŋ	knuwan	kawas	skənux	m-hənuk
PA	*k		*kadaŋ	*kanuwan	*kawas	*skənux	*ma-hənuk

However, in the 6 items below, Atayal /k/ corresponds to Sediq /q/ or /ʔ/.

			'head louse'	'see'	'take care'
Ata	Sq	/k/	kuhiŋ	m-itaʔ (kitaʔ)	k-m-ahaŋ (kahaŋ)
	Ms	/k/	kuhiŋ	k-um-itaʔ	m-lahaŋ (kalhaŋ-an)
	Sk	/k/	kuhiŋ	kta-yux	m-lahaŋ (khlaŋ-i)
	Mx	/k/	kuhiŋ/kucuʔ	k-um-ita-al[15]	ma-lahaŋ (kalhaŋ-an)
	Pl	/k/	kuhiŋ	—	ma-lahaŋ (klahŋ-an) 'seek'
Sed	Tn	/q/	quhiŋ	m-itaʔ (qitaʔ)	q-m-lahaŋ
	Td	/q/	quhiŋ	q-m-itaʔ	q-m-lahaŋ
	Tr	/ʔ/	ʔuhiŋ	ʔ-m-itaʔ	ʔ-m-lahaŋ
	In	/q/	quhiŋ	q-m-itaʔ	q-m-lahaŋ
PA	*k		*kuhiŋ/*kucuʔ	*kitaʔ	*kalahaŋ

15. The suffix -al < *-ral must have originated as the male form. Cf. muxa-al/mawxaʔ 'sick.' Unfortunately the anticipated female form *k-um-itaʔ 'see' has been lost in Mayrinax.

			'fat'	'tree'	'bird'
Ata	Sq	/q/	qt-huy	qho-niq	qh-niq
	Ms	/k/	kt-huy	kahaw-niʔ	kabha-niʔ
	Sk	/q/	qt-huy	qhu-niq	qh-niq
	Mx	/k/	kit-huw	kahu-niq/kahuy	kabah-niq[16]
	Pl	/k/	katu-hur	kahu-niʔ	kabah-niʔ
Sed	Tn	/q/	qte-hur	qhu-niʔ	qbhe-niʔ
	Td	/q/	qtə-hur	qhu-niʔ	qbhə-niʔ
	Tr	/ʔ/	ʔtə-hur	ʔhu-niʔ	qbhə-niʔ
	In	/q/	qtə-hur	qhu-niʔ	—
PA		*k	*kitə-hur	*kahu-niq/*kahuy	*kabah-niq

In the first 3 examples, /k-/ is retained as /k-/ in the Atayal dialects, but assimilated to the following /h/ or /ʔ/ as /q/ or /ʔ/ in the Sediq dialects. In fact, this assimilation may also take place in the Squliq dialects of Atayal and Skikun, which has been heavily influenced by Squliq, as in the last 3 examples above. In these forms the initial velar stop /k/ has been assimilated to the final uvular stop /q/ or to the following pharyngeal fricative /h/ in Squliq and Skikun; see Li 1980a: 377.

The simple imperative forms of the verbs 'to see' and 'to take care' are given in parentheses above to illustrate the initial consonants of the verb roots.

2. 4 PA *q has become /ʔ/ in Maspaziʔ, Matabalay and Sakuxan, and has become /ʔ/ in Truwan (Sediq), Bʔalaʔ and Pakaliʔ (both Atayal). Both /ʔ/ and /ʔ/ are found in the major subgroups of the entire group. The process of change may have been: *q > ʔ > ʔ, since in terms of the point of articulation the pharyngealized stop /ʔ/ is phonetically between the uvular stop /q/ and the glottal stop /ʔ/.

PA *q > ʔ > ʔ > ϕ, as it was lost word-medially in Palŋawan.

The following correspondence appears in both prevocalic and postvocalic position (The symbol " ' " indicates syllable division in Palŋawan):

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16. It is suspected that the suffix -niq > niʔ has originated as the male form. Cf. the item 'tree.' Unfortunately the corresponding female form *kabah 'bird' has been lost in Mayrinax.

			'water'	'child'	'face'	'mud'	'mouth'
Ata	Sq	/q/	qsiya?	laqi?	rqi-ya-s	slaq	n-qwaq
	Ms	/?/	?asiya?	la?i?	ra?i-ya-s	sla?	ŋa-?uwa?
	Sk	/q/	qsiya?	laqi?	(r)qi-na-s	claq	n-qwaq
	Mx	/q/	qusiya?	?ulaqi?	raqi-na-s	claq	ŋa-quwaq
	Pl	/?,-φ-/	?use?	?ule?	řa'-ya-s	—	ŋa-'wa?
Sed	Tn	/q/	qsiya?	laqi?	dqe-ra-s	—	quwaq
	Td	/q/	qsiya?	laqi?	dqə-ra-s	cəlaq	quwaq
	Tr	/?/	?siya?	la?i?	d?ə-ra-s	səla?	?uwa?
	In	/q/	qsiya?	laqi?	daqə-ra-s	səlaq	quwaq
PA		*q	*qusiya?	*?ulaqi?	*daqis	*cəlaq	*ŋa-quwaq

Notice that the item 'face' contains the infix -na- or -ra- > -ya- with unknown function in various dialects. These forms must have originated with the male speakers; see Li 1980b. Unfortunately the corresponding female form has been lost in Mayrinax.

Like Squliq, the initial consonant in Skikun is often lost. Cf. the Mnawyan form /rqi-na-s/ 'face,' which still retains the initial.

Dissimilation may have taken place in the initial nasal of the forms for "mouth" in both Squliq and Skikun; see Li 1980a: 377.

The consonant /q/ or the syllable /qa/ seems to have been inexplicably lost in Sediq in the following items:

			'boat'	'village'	'wash clothes'	'shoulder'	'pestle'
Ata	Sq	/q/	qasu?	qalaŋ	mahuq	qhiyaŋ	qsizu?
	Ms	/?/	?asu?	?alaŋ	mahu?	—	?suyu?
	Sk	/q/	qasu?	qalaŋ	mahuq	qhiyaŋ	qsuyu?
	Mx	/q/	—	qalaŋ	ma-bahuq	—	qasuu?
	Pl	/?/	?asu?	?alaŋ	ma-bahu?	—	?asu?
Sed	Tn	φ	?asu?	?alaŋ	mahu?	—	seru?
	Td	φ	?asu?	?alaŋ	mahu?	hiraŋ	səru?
	Tr	φ	?asu?	?alaŋ	mahu?	hiraŋ	səru?
	In	φ	?asu?	?alaŋ	mahu?	hiraŋ	s?əru?
PA		*q	*qasu?	*qalaŋ	*ma-bahuq	*qhiraŋ	*qasəru?

Note that in most dialects *b(a) has been lost immediately adjacent to the homorganic /m/ in the item 'wash clothes' above; see Li 1980a:364.

			'winter'	'sew'	'same'	'anteater'
Ata	Sq	/q/	qmis-an	s-m-aqis	m-tnaq	qom
	Ms	/ʔ/	ʔamis-an	s-m-aʔis	ma-tanaʔ	ʔagum
	Sk	/q/	qmis-an	c-m-aqis	m-tnaq	q-qom
	Mx	/q/	qamis-an	c-um-aqis	—	qaum/qagum
	Pl	/ʔ/	—	c-um-ais	min-tanaʔ	ʔoŋ
Sed	Tn	φ	mis-an	(s-m-ais)	mn-tenaʔ	ʔaruŋ
	Td	φ	mis-an	(s-m-ais)	mn-tənaʔ	ʔaruŋ
	Tr	φ	mis-an	s-m-ais	mn-tənaʔ	ʔaruŋ
	In	φ	mis-an	s-m-aʔis	mn-tənaʔ	ʔaruŋ
PA	*q		*qamis-an	*c-um-aqis	*ma-tənaq	*qagum

2. 5 The glottal stop /ʔ/ is preserved in most dialects in most positions, although in some dialects it has been lost in medial position:

			'gray hair'	'hungry'	'dark'	'who'	'you (sg.)'
Ata	Sq	/ʔ/	quriʔ	m-ʔuzay	mn-kum	ʔimaʔ	ʔisuʔ
	Ms	/ʔ/	ʔuriʔ	—	mn-kuʔum	ʔimaʔ	ʔisuʔ
	Sk	/ʔ/	ʔi-quriʔ	—	mn-kum	ʔimaʔ	ʔisuʔ
	Mx	/ʔ/	quriʔ/quras	—	mana-kuʔum	ʔimaʔ	ʔisuʔ
	Pl	/ʔ/	ʔuriʔ	ma-'uriy	miŋ-kuŋ	ʔimaʔ	ʔisuʔ
Sed	Tn	/ʔ/	quriʔ	mu-ʔure	mn-kuʔuŋ	ʔimaʔ	ʔisuʔ
	Td	/ʔ/	qudas	mu-ʔuray	mən-kuuŋ	ʔimaʔ	ʔisuʔ
	Tr	/ʔ/	ʔujiʔ	mu-ʔuray	m-kuuŋ	ʔimaʔ	ʔisuʔ
	In	/ʔ/	qujiʔ	mu-ʔuray	m-kuuŋ	ʔimaʔ	ʔisuʔ
PA	*ʔ		*qudiʔ/*qudas	*mu-ʔuray	*mana-kuʔum	*ʔimaʔ	*ʔisuʔ

The origin of PA *ʔ is not clear; it may have developed as a phonetic feature mostly in the word-initial and final position in the modern dialects.

2. 6 The correspondence of /b/ is uniform in all dialects in the whole group. It occurs only in word-initial and medial position:

		'cave'	'charcoal'	'stone'	'long time'	'above'
Ata	Sq /b/	bliŋ	bagah	btu-nux	bsiq	babaw
	Ms /b/	baliŋ	bagah	—	bsiyaʔ	babaw-iʔ
	Sk /b/	bliŋ	bagah	btu-nux	bsiyaq	babaw
	Mx /b/	ma-bliŋ	—	batu-nux[17]	—	babaw-iq
	Pl /b/	bliŋ	—	batu-nux	buseʔ	baw-iʔ
Sed	Tn /b/	beliŋ	bagah	btu-nux	bsiyaq	bobo
	Td /b/	bəliŋ	bawah	btu-nux	bsiyaq	babaw
	Tr /b/	bəliŋ	bagah	btu-nux	bsiyaʔ	babaw
	In /b/	bəliŋ	bagah	btu-nux	busiyaq	babag
PA	*b	bəliŋ	*bagah	*batu-nux	*busiyaq	*babaw

In word-final position, only Mayrinax retains *-b as the voiced bilabial frica-
tive [β]; it is devoiced as [p] in most of the other Atayal dialects and changed
to [k] in all Sediq dialects and the Atayal dialects in the Sediq area, Palŋawan,
Bʔalaʔ and Mstbaun. There are only a few examples of this correspondence:

		'suck'	'stab'	'share one cup'	'do magic'	'yawn'
Ata	Sq /-p/	shup	h-m-op	m-gop	h-m-gup	m-suyap
	Ms /-p/	pa-siyup	—	ma-gaup	h-am-agup	ʔam-suyap
	Sk /-p/	p-shup	h-m-ap	m-gop	h-m-op	m-suyap
	Mx /-b/	pa-sihub	h-um-ab	g-um-aub	h-um-gub	ma-suwag
	Pl /-k/	—	—	ma-ga-gok	h-um-uk	ma-surak
Sed	Tn /-k/	—	—	—	—	m-suwak
	Td /-k/	—	—	—	—	m-surak
	Tr /-k/	—	—	—	—	m-surak
	In /-k/	—	—	—	—	m-surak
PA	*-b					*ma-surab
						*ma-suwab

These are the verbs that should have ended with *-b in the proto-forms at
least in the Proto-Atayal stage, but there is no evidence as yet that they all
occurred in the stage of Proto-Atayalic. The problem in reconstructing some of
these verbs is that the cognates do not appear in both Atayal and Sediq.

Note the variant PA forms *ma-suwab and *ma-surab for the verb 'to yawn.'

The Mayrinax form /ma-suwag/ 'yawn' needs some explanation. The semi-

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17. The suffix -nux must have originated as the male form. Cf. lata-nux/lataʔ 'front yard,' tag-
lata-nux/tgi-lataʔ 'outside.' Unfortunately the corresponding female form *batuʔ 'stone' has
been lost in Mayrinax.

vowel /w/ may have been derived from *r (see §2.14) and the final consonant /g/ is probably the result of dissimilation from the labial *b, viz. PA *ma-surab > *ma-suwab > ma-suwag. In fact, I actually recorded the form /ma-suwab/ as based on an older speaker in Paʔnakualiʔ (八卦) and a 41-year woman named Laway Kagiʔ (Lung Yen-hsiang 龍艷香 in Chinese) in Mabatuʔan.

I have found only 6 items ending with /-b/ out of approximately 1,500 items in Mayrinax, 6 verbs with b~p alternation in other Atayal dialects and 3 verbs with b~k alternation in Sediq dialects; see Li 1981.

Sediq dialects and Palŋawan have undergone the following changes: *-b > *-p > -k. The devoicing of the final stop is found in most Atayal dialects. There is internal evidence for the fact that Sediq and Palŋawan have further undergone the change from labials to velars word-finally; see Yang 1976: 647-49 and Li 1980a: 382.

In addition to the first four verbs listed in the table above, Mayrinax has two nouns ending with /-b/, /ginabugab/ 'rice gruel,' /sabsab/ 'eaves.'

In Mabatuʔan, a dialect closely related to Mayrinax, also retains word-final /-b/ in the forms /pa-sihub/ 'suck', /h-um-ab/ 'stab'. However, /-b/ has been devoiced to become /-p/ in two other verbs, /g-um-aup/ 'share one cup,' /h-um-gop/ 'do magic,' as based on a 68-year-old man named Taliʔ Nabaw (Liu Cheng-yi 劉正義 in Chinese), with whom I worked in his village. Yet according to Shigeru Tsuchida (private conversation), who had worked with a 75-year-old man named Boyoŋ Bawnay (Feng Yü-wen 馮玉文 in Chinese) from the same village, /-b/ is preserved in all these verbs.

In the dialects in which *-b has devoiced to become /-p/ or /-k/, all the verbs exhibit b~p or b~k alternations. See Li 1980a: 358 for b~p alternation in Squliq, p. 386 for the same alternation in Skikun, Maspaziʔ (Cʔuliʔ) and Sakuxan, and p. 381 for b~k alternation in Skikun. Also see Yang 1976: 648 for b~k alternation in Toŋan (Paran).

In the dialect of Sakuxan, b~p alternation is retained only in the three verbs below:

/hagup, h-um-agup, hagab-i, hagab-an/ 'do magic'

/magaup, pagaub-i, p-in-agaub-an/ 'share one cup'

/pa-karip, karib-i, k-in-rib-an/ 'cut with scissors'

The alternation has been levelled out in the other verbs, such as

/pa-siyup, pasyup-i, p-in-syup-an/ 'suck.'

In fact, a 61-year-old man named Yupas Kagiʔ (Kao Tê-an 高德安 in Chinese) shows the free variants /karib-i/~/karip-i/ for the verb 'to cut with scissors.' Since b~p alternation is not a productive rule, it seems natural for /b/ to become /p/ even in word-medial position in this verb in which *b originally appeared.

2.7 Sediq /d/ corresponds to Atayal /r/ preconsonantally and prevocalically except before /i/ or /y/:

			'pygmy deer'	'horse'	'friend'	'beard'	'trap'
Ata	Sq	/r/	paraʔ	rmeʔ	raniʔ	ŋurus	raŋay
	Ms	/r/	paraʔ	ramaiʔ	raniʔ	ŋurus	raŋay
	Sk	/r/	paraʔ	m-rmeʔ	raniʔ	ŋurus	raŋay
	Mx	/r/	paraʔ	ramaiʔ	—	ŋa-ŋurus	raŋa
	Pl	/r̃/	par̃aʔ	r̃amiyʔ	r̃aniʔ	ŋur̃us	—
Sed	Tn	/d/	padaʔ	dmaiʔ	daniʔ	ŋudus	—
	Td	/d/	padaʔ	dmaiʔ	daniʔ	ŋudus	daŋar
	Tr	/d/	padaʔ	dmaiʔ	daniʔ	ŋudus	daŋar
	In	/d/	padaʔ	dmaiʔ	daniʔ	ŋudus	daŋar
PA	*d		*padaʔ	*damai?	*daniʔ	*ŋudus	*daŋar

Before *i or *y, *d has become /j/ in the Truwan and Inago dialects of Sediq:

			'hornet'	'gray hair'	'earwax'	'day'	'cicada'
Ata	Sq	/r-/	triyuŋ	quriʔ	qpuriʔ	riyax	—
	Ms	/r-/	tariyuŋ	ʔuriʔ	ʔapuriʔ	riyax	riyay
	Sk	/r-/	triyuŋ	ʔi-quriʔ	qpuriʔ	riyax	—
	Mx	/r-/	—	quriʔ/quras	qapuriʔ	(riʔax)	—
	Pl	/r̃-/	r̃iuŋ	ʔur̃iʔ	ʔapur̃iʔ	r̃ex	—
Sed	Tn	/d-/	tdiyuŋ	qudiʔ	qpudiʔ	—	k-diye
	Td	/d-/	tdiyuŋ	qudas	qpudiʔ	diyax	(k-diyac)
	Tr	/j-/	tjiyuŋ	ʔujiʔ	ʔpujiʔ	jiyax	(k-jiyac)
	In	/j-/	tjiyuŋ	qujiʔ	qpujiʔ	jiyax	(k-jiyac)
PA	*d		*tədiyuŋ	*qudiʔ/*qudas	*qapudiʔ	*diyax	*k-diyay

Atayal /r/ corresponding to Sediq /d/ does not occur word-finally. In fact, –d does not occur word-finally in any modern dialect.

Let us examine the following correspondence in the word-final position:

			'wing'	'mouse'	'leopard'	'ashes'
Ata	Sq	/-ʔ/	paliʔ	qoliʔ	kliʔ	qbu-liʔ
	Ms	/-t/	—	qawlit	yakalit	ʔabu-lit
	Sk, Mn	/-ʔ/	paliʔ	qoliʔ	kliʔ	qbu-liʔ
	Mx	/-ʔ/	paliʔ	qawlit	ʔakliʔ	qabu-liʔ
	Mt, Sx	/-t/	pali-huy	ʔawlit	yakalit	ʔabu-lit
	Pl	/-c/	—	ʔolic	yaklic	ʔabu-lic
Sed	Tn	/-c/	palic	qolic	rkelic	qbu-lic
	Td	/-c/	palic	qolic	rkəlic	qbu-lic
	Tr	/-c/	palic	ʔolic	rkəlic	ʔbu-lic
	In	/-c/	palic	qawlic	rakəlic	qabu-lic
PA	*-d		*palid	*qawlid	*rakəlid	*qabu-lid

In the above correspondence, only three Atayal dialects regularly end with /-t/, most other Atayal dialects end with /-ʔ/,[18] and all the Sediq dialects end with /-c/. Are the final consonants /-t/, /-ʔ/ and /-c/ in modern dialects reflexes of an earlier *-d or *-c? The former is more likely because it seems more natural for a voiced stop to become a voiceless stop (*-d > -t) in the word-final position, than for an affricate to change to a stop (*-c > -t). Also the change of the dental stop *-d > -t, -ʔ or -c parallels that of the labial stop *-b > -p or -k in devoicing.

The correspondence of the /-c/ series in all Sediq dialects has only 3 possible origins, *-c, *-t or *-d. Based on an internal reconstruction, Sediq /d/ has been found to change to /c/ word-finally (Yang 1976: 649-50). By a comparative study, Sediq /d/ corresponds to Atayal /r/ word-initially and medially. However, except for Palŋawan and a few non-cognate forms in other Cʔuliʔ dialects, Atayal /r/

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18. Note that /-t/ in Mayrinax /qawlit/ is irregular.

rarely occurs word-finally; it generally becomes /y/ in that position in Squliq. The above correspondence could be reconstructed as the missing *-d. The derivation Proto-Hesperonesian *[tT]aNiu[DZ] > Proto-Atayal *taliud 'mulberry' provides supporting evidence for this hypothesis, and so does PAN *paɬiḍ > PA *palid 'wing.' Since we have PA *-b and *-g (see §2. 8 below), the symmetric pattern of distribution will also allow us to reconstruct PA *-d for the correspondence ʔ-t-c as illustrated above. There is no reason to create a new phoneme for this particular correspondence.

It can be speculated that the changes *-d > -t > -ʔ have taken place in Squliq, Skikun, Mnawyan and Mayrinax, while the changes *-d > *-t > -c in Sediq and Palŋawan.

2. 8 Toda /w/ corresponds to /g/ in all the other dialects prevocalically except in the environments of *a____ a and *a____u:

			'root'	'loquat'	'cloth'	'scrub'	'navel'
Ata	Sq	/g-/	gamil	gituʔ	galiq	k-m-ugus	pugaʔ
	Ms	/g-/	gamil	—	galiʔ	k-m-ugus	—
	Sk	/g-/	gamil	—	m-galiq	k-m-ugus	pugaʔ
	Mx	/g-/	gamil	ʔituʔ	ma-galiq	k-um-ugus	pugaʔ
	Pl	/g-/	gamil	gituʔ	galiʔ	—	—
Sed	Tn	/g-/	gamil	gituʔ	galiq	k-m-ugus	pugaʔ
	Td	/w-/	wamil	wituʔ	waliq	k-m-uus	puwaʔ
	Tr	/g-/	gamil	gituʔ	galiʔ	k-m-ugus	pugaʔ
	In	/g-/	gamil	gituʔ	galiq	k-mugus	pugaʔ
PA		*g-	*gamil	*gituʔ	*galiq	*k-um-ugus	*pugaʔ

For the irregular form /ʔituʔ/ in Mayrinax, see Note 27 on P. 287.

Note that *g is lost between identical /u/'s in Toda.

Between identical /a/'s, *-g- has changed to /r/ in the Sediq dialects:

			'maple tree'	'crab'	'Alocasia'[19]
Ata	Sq	/-g-/	raga?	kagaŋ	bgayaw
	Ms	/-g-/	raga?	kagaŋ	(bagaci?)
	Sk	/-g-/	raa?	(kakaŋ)	bgayax
	Mx	/-g-/	raa?/raga?	ka-kagaŋ	(bagati?)
	Mt	/-g-/	raga-yuŋ	ka-kagaŋ	(bagati?)
	Pl	/-g-/	raa?	ka-kagaŋ	bagayaw
Sed	Tn	/-r-/	dara?	karaŋ	brayo
	Td	/-r-/	dara?	k-ra-raŋ	brayaw
	Tr	/-r-/	dara?	k-karaŋ	brayaw
	In	/-r-/	dara?	(k-m-araŋ)	brayag
PA		*-g-	*daga?	*kagaŋ	*bagayag

The word-medial *-g- is lost between *a__u and *a__i in many Atayal dialects, but always preserved in the female forms of speech in Mayrinax:

			'anteater'	'needle'	'do magic'	'beans'	'loom'
Ata	Sq	-φ-	qom	rom	h-m-gup	qeraŋ	qoŋu?
	Ms	-(g)-	?agum	raum	h-am-agup	?agiraŋ	?aguŋu?
	Sk	-φ-	q-qom	rom	h-m-op	qeraŋ	qoŋu?
	Mx	-φ-/g-	qaum/qagum	raum/ragum	h-um-gub	qagiraŋ	qaguŋu?
	Mt	-φ-	?aum	raum	h-um-agop	?agiraŋ	?aguŋu?
	Pl	-φ-	?oŋ	roŋ	h-um-uk	?eřaŋ	?aguŋu?
Sed	Tn	/-r-/	?aruŋ	—	—	—	—
	Td	/-r-/	?aruŋ	—	—	—	—
	Tr	/-r-/	?aruŋ	—	—	—	—
	In	/-r-/	?aruŋ	—	—	—	—
PA		*-g-	*qagum	*dagum			

In the postvocalic position, *g is preserved as /g/ after *i in only Matabalay, Inago and Truwan:

			'sand'
Ata	Sq	/-y/	bnaqiy
	Ms	/-y/	bana?iy
	Sk, Mn	/-y/	bnaqiy
	Mx	/-y/	bunaqiy
	Mt	/-g/	buna?ig
	Pl	/-y/	buna'iy

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19. The forms in most dialects in the Cʔuli? subgroup take the suffix -ti? or -ci?. It is suspected that these originated as the male forms. Unfortunately the corresponding female form is missing in Mayrinax.

ed Tn	/-y/	bnaquy
Td	/-ʔ/	bnaqiʔ
Tr	/-g/	bnaʔig
In	/-g/	bnaqig
PA	*-g	*bunaqig

There might be a metathesis *-ig>*-iw > -uy or simply *-ig > -uy in Toŋan.

Only one cognate has been identified for this correspondence.

After *u, PA *-g is retained as /-g/ in two Atayal dialects (Matabalay and Mayrinax) and two Sediq dialects (Truwan and Inago), devoiced to become /-x/ in Skikun and Mnawyan, has become /-ʔ/ in Toda, and has changed to /-w/ in most other dialects. Some older speakers of Mayrinax still preserve /-g/ [-ɣ], although all younger speakers have changed it to -w:

			'Jew's harp'	'necklace, string'	'thread a needle'
Ata	Sq	/-w/	lubuw	sniyuw	m-uhuw
	Ms	/-w/	lubuw	(samiyuw)	l-m-uhuw
	Sk, Mn	/-x/	lubux	sniyux	l-m-uhux
	Mx	/-g/	lubug	siniyug	l-um-hug
	Mt	/-g/	lubug	siniyug	l-um-uhug
	Pl	/-w/	lubuw	sinyuw	l-um-uhuw
Sed	Tn	/-w/	(tubuw)	sniruw	l-m-ihuw
	Td	/-ʔ/	lubuʔ	sniruʔ	l-m-ihuʔ
	Tr	/-g/	lubug	snirug	l-m-ihug
	In	/-g/	lubug	—	l-um-ihug
PA		*-g	*lubug	*sinirug	*l-um-ihug
					*l-um-uhug

After *a, PA *-g is retained as the voiced velar fricative /g/ [-ɣ] in Mayrinax, Matabalay and Inago, and as the voiceless velar fricative /-x/ in Skikun and Mnawyan; in all the other dialects it has changed to /-w/:

			'side'	'Alocasia'
Ata	Sq	/-w/	siyaw	bgayaw
	Ms	/-w/	siyaw	(bagaciʔ)
	Sk, Mn	/-x/	siyax	bgayax
	Mx	/-g/	siyag	(bagatiʔ)
	Mt	/-g/	siyag	(bagatiʔ)
	Pl	/-w/	syaw	bagayaw
Sed	Tn	-φ	siyo	brayo
	Td	/-w/	siyaw	brayaw
	Tr	/-w/	siyaw	brayaw
	In	/-g/	siyag	brayag
PA		*-g	*siyag	*bagayag

2.9 Between i__a (except 'yesterday'), Atayal /-r-/, /-r̃-/, or /-s-/ corresponds to Sediq /-y-/:

			'how many'	'a little later'	'reed of loom'
Ata	Sq	/-r-/	piraʔ	kiraʔ	(bziraʔ)
	Ms	/-s-/	pisaʔ	kisaʔ	bagisaʔ
	Sk	/-s-/	pisaʔ	kisaʔ	bgisaʔ
	Mx	/-s-/	(piyaʔ)[20]	kisaʔ	bagisaʔ
	Mt	/-s-/	pisaʔ	kisaʔ	bagisaʔ
	Pl	/-r̃-/	pir̃aʔ	kir̃aʔ	bagir̃aʔ
Sed	Tn	/-y-/	piyaʔ	kiyaʔ	bgiyaʔ
	Td	/-y-/	piyaʔ	kiyaʔ	bwiyaʔ
	Tr	/-y-/	piyaʔ	kiyaʔ	bgiyaʔ
	In	/-y-/	piyaʔ	kiyaʔ	bgiyaʔ
PA		*-g'-	*pig'aʔ	*kig'aʔ	*bagig'aʔ

Atayal /-r-/ or /-s-/ corresponds to Sediq /-g-/ or /-w-/ between other vowels:

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20. The Mayrinax form may have been borrowed from Sediq.

		'yesterday'	'Buy!'	'Peel hemp!'	'nine'	'woman's basket'
Ata	Sq /-r-/	hira?	bir-i	kgir-i	qiru?	kiri?
	Ms /-s-/	su-hisa?	bais-ani	k-in-gis-an	ma-?isu?	(takil)
			'Sell!'	'passive'		
	Sk /-s-/	c-hisa?	bes-i	kgis-i	m-qisu?	kagisi?
	Mx /-s-/	cu-hisa?	baynay/ baay	kumkagis-i	ma-ma-qisu?	kagisi?
	Mt /-s-/	su-hisa?	binas-ay	kumakagis-i	ma-ma-?isu?	kagisi?
	Pl /-ř-/	hiřa?	binař-i	kagiř-i	ma-?iřu?	kagiři?
Sed	Tn /-g-/	ciga?	brig-i			
	Td /-w-/	c-hiwa?	briw-i			
	Tr /-g-/	s-higa?				
	In /-g-/	siga?	brig-i			
PA		*g'-	*cu-hig'a?	*barig'-i		

Word-final *-g' is retained as /-g/ in Matabalay and Taroko dialects (Truwan and Inago), has changed to /-s/ in Skikun and Mnawyan, and has changed to /-y/ in most other dialects:

		'hemp'	'buy'	'lie on one's side'
Ata	Sq /-y/	kgiy	maziy	—
	Ms /-y/	kagiy	ma-baziy	(ma-t-ka-kiil)
	Sk /-s/	kgis	m-bes	m-t-k-kis
	Mx /-y/	kgiy	ma-baay	(ma-s-ki-ka-kil)
	Mt /-g/	kagig	ma-bazig	(ma-si-ka-kil)
	Pl /-y/	kuŋ-kagiy	miniy	ma-s-ka-kiy
Sed	Tn /-y/	keguy	maruy	
	Td /-?/	kəri?	mari?	
	Tr /-g/	kərig	marig	
	In /-g/	kərig	marig	s-kiig
PA		*-g'	*kəgig'	*ma-barig'	*ma-si-ka-kig'

No example has been found in word-initial position of *-g'. The same restriction appears in both Proto-Atayalic and Proto-Austronesian.

2. 10 In prevocalic position, Skikun, Mayrinax, Palŋawan, Toŋan and Toda /c/ corresponds to /s/ in all the other Atayal and Sediq dialects. The development from *c to /s/ in Squliq, Maspaziʔ, Truwan and Inago must have occurred independently after the split of Atayal and Sediq:

		'middle'	'mud'	'answer'	'viscera, heart'	'shoot'
Ata Sq	/s/	skaʔ	slaq	s-m-yuk	qsahuy	—
Ms	/s/	sakaʔ	salaʔ	s-um-iyuk	ʔasahuy	s-m-abuʔ
Sk	/c/	ckaʔ	claq	c-m-yuk	—	—
Mx	/c/	ma-cka-ckaʔ	claq	c-um-iyuk	qacahuw	c-um-buʔ
Pl	/c/	ca-ckaʔ	—	c-um-yuk	ʔacahur	c-um-buʔ
Sed Tn	/c/	ck-cekaʔ	—	c-m-iyuk	qcahur	c-m-ebuʔ
Td	/c/	cəkaʔ	cəlaq	c-m-iyuk	qcahur	c-m-əbuʔ
Tr	/s/	səkaʔ	səlaʔ	s-m-iyuk	ʔsahur	s-m-əbuʔ
In	/s/	səkaʔ	səlaq	s-m-iyuk	qsahur	s-əm-buʔ
PA	*c	*cəkaʔ	*cəlaq	*c-um-iyuk	*qacahur	*c-um-əbuʔ

There are only a few suspicious cognates that seem to indicate Proto-Atayalic *-c, as in the example below (cf. *-d in §2. 7):

		'stick'	'vein'
Ata Sq	/-ʔ/	hokuʔ	ʔugiq
Ms	/-ʔ/	hawkuʔ	ʔugil
Sk	/-ʔ/	hokuʔ	ʔugiq
Mx	/-ʔ/	hawkuʔ	ʔugiq
Pl	/-ʔ/	hukuʔ	ʔugil
Sed Tn	/-c/	hukuc	ʔurac
Td	/-c/	hukuc	ʔurac
Tr	/-c/	hukuc	ʔurac
In	/-c/	hukuc	ʔurac
PA	*-c(?)	*hawkuc (?)	*ʔugac (?)

However, let us examine the following cognates in Atayal:

		'ask'	'bite'	'flow'	rob'	'cut'
Ata	Sq /-t/	maqut	k-m-at	(m-qluiʔ)	s-m-iŋat	k-m-ut
	Ms /-t/	maʔut	k-am-aat	ma-ʔaluit	y-am-iŋat	k-m-ut
	Sk /-c/	—	k-m-ac	—	miŋac	k-m-uc
	Mx /-t/	maqut	k-um-aat	ma-qaluit	ʔ-um-iŋat	k-um-ut
	Pl /-c/	—	k-um-ac	mulic		k-um-uc
Sed	Tn /-c/		—	(qluliʔ)		k-m-eruc
	Td /-c/		—	(qluluy)		k-m-əruc
	Tr /-c/		—	(ʔluliʔ)		k-m-əruc
	In /-c/		—	(qluliʔ)		k-m-əruc
PA	*-c(ʔ)		*kagac	*qaluic		*k-um-əguc
PAN			*kaɣac			*kəɣəc

As based on internal evidence, *-c has become /-t/ or /-c/ in the conservative Atayal dialects (see Li 1980a: 383-84):

Mayrinax: c ⟶ t/___#

Stem	Active	Passive	Imperative	
paqut	maqut	paquc-an	paquc-i	'ask'
kaat	k-um-aat	kaac-un		'bite'
qaluit	q-um-aluit	qaluic-un		'flow'
ʔiŋat	ʔ-um-iŋat	ʔiŋac-un		'rob'

Maspaziʔ, Matabalay & Sakuxan: s (<*c) ⟶ t/___#

paʔut	maʔut	paʔus-an	paʔus-i	'ask'
kaat	{k-um-aat k-am-aat	{k-in-aas-an kaas-un	kaas-i	'bite'
	ma-ʔaluit	pa-ʔaluis-un	pa-ʔaluis-i	'flow'
	y-am-iŋat		yaŋas-i	'rob'

The original morphophonemic alternations c∼t (c ⟶ t/___#) and s ∼ t (s ⟶ t/___#) have been leveled out by analogical change in the more innovative Atayal dialects, such as Squliq and Skikun:

Squliq:

Stem	Active	Passive	Imperative	
paqut	maqut	pqut-an	pquc-i	'ask'
kat	k-m-at	kat-un	kac-i	'bite
qluiʔ	m-qluiʔ	qliuʔ-an	qliuʔ-i	'flow'
siŋat	s-m-iŋat	sŋat-an	sŋac-i	'rob'

Skikun:

kac	k-m-ac	kat-un	kac-i	'bite'
	miŋac	ŋat-an	ŋac-i	'rob'

It is noteworthy that the word-medial *-c- has changed to -t- in some forms in Squliq and Skikun, but to -ʔ- in the item 'flow' in Squliq.

Perhaps Palŋawan is the only dialect that retains *c as /c/ in all positions, as in:

kac	k-um-ac	kac-un		'bite'
ʔulic	mulic		ʔulic-i	'flow'

The sound correspondence (-t~-c in word-final position) for the posited *-c is exactly the same as that of *-t (see §2.2). Unfortunately there are few good solid cognates that appear in both Atayal and Sediq dialects. It is, therefore, difficult to determine whether *-t and *-c were merged or separate in Proto-Atayalic, although they must have been separate in Pre-Atayalic.

2.11 The correspondence /s/ is regular in all positions in all dialects:

			'beard'	'twenty'	'you (sg.)'	'clothes'	'side'
Ata	Sq	/s/	ŋurus	pusal	ʔisuʔ	lukus	siyaw
	Ms	/s/	ŋurus	ma-pusal	ʔisuʔ	lukus	siyaw
	Sk	/s/	ŋurus	pusal	ʔisuʔ	lukus	siyax
	Mx	/s/	ŋa-ŋurus	ma-pusal	ʔisuʔ	—	siyag
	Pl	/s/	ŋur̃us	ma-pusal	ʔisuʔ	lʊkus	syaw
Sed	Tn	/s/	ŋudus	m-pusal	ʔisuʔ	lukus	siyo
	Td	/s/	ŋudus	m-pusal	ʔisuʔ	lukus	siyaw
	Tr	/s/	ŋudus	m-pusal	ʔisuʔ	lukus	siyaw
	In	/s/	ŋudus	m-pusal	ʔisuʔ	lukus	siyaw
PA		*s	*ŋudus	*ma-pusal	*ʔisuʔ	*lukus	*siyag

2. 12 The correspondence /x/ in all dialects can be reconstructed as *x:

			'head'	'stink'	'black'	'day after tomorrow'
Ata	Sq	/x/	tunux	sknux	qalux	kaxaʔ
	Ms	/x/	tunux	—	(ma-kalux)	ma-kaxaʔ
	Sk	/x/	tunux	skunux	—	(m-kagaʔ)
	Mx	/x/	tunux	—	—	ma-kaxaʔ
	Pl	/x/	tunux	sakanux	(ma-kalux)	ma-kaxaʔ
Sed	Tn	/x/	tunux	skenux	qalux	m-kaxaʔ
	Td	/x/	tunux	skənux	m-qalux	m-kaxaʔ
	Tr	/x/	tunux	skənux	m-ʔalux	m-kaxaʔ
	In	/x/	tunux	skənux	m-qalux	ŋ-kaxaʔ
PA		*x	*tunux	*skənux	*ma-qalux	*ma-kaxaʔ

No example of the correspondence has been found in initial position, as /x/ does not occur word-initially in the Atayal dialects except for /xuxuʔ/ 'breasts,' /xuyil/ 'dog' in Mayrinax, and in Skikun, whose [x-] was originally derived from [ɣ-].

The origin of /x/ in the Atayalic group is unknown.

2. 13 The correspondence /h/ is found in all position in all dialects:

			'saliva'	'flesh'	'soft'	'to warm, roast'	'flower'
Ata	Sq	/h/	halus	hiʔ	m-hnuk	malah	hpah
	Ms	/h/	—	hiiʔ	m-hnuk	malah	—
	Sk	/h/	—	hiiʔ	m-hnuk	malah	phpah
	Mx	/h/	—	hihihihiʔ	ma-hnuk	malah	pahpah
	Pl	/h/	—	hiiʔ	ma-hnuk	malah	—
Sed	Tn	/h/	(hlulas)	hiiʔ	m-henuk	malah	phepah
	Td	/h/	halus	hiiʔ	m-hənuk	malah	phəpah
	Tr	/h/	halus	hiiʔ	m-hənuk	malah	phəpah
	In	/h/	halus	hiiʔ	m-hənuk	malah	phəpah
PA		*h	*halus	*hiiʔ	*ma-hənuk	*malah	*pahəpah

2.14 /r/ in all Sediq dialects and Palŋawan corresponds to /y/ or /w/[21] in other Atayal dialects in all positions except before /i/ or between identical vowels:

		'cloud'	'bamboo basket'	'elder sibling'	'fall'	'fat'
Ata	Sq /y/	yuluŋ	yawaʔ	qsuyan	m-takuy	qt-huy
	Ms /y/	yuluŋ	yawaʔ	baʔasuyan	ma-takuy	kt-huy
	Sk /y/	yuluŋ	yawaʔ	qsuyan	m-takuy	qt-huy
	Mx /w/	—	wawaʔ	(qumisuwan)	ma-takuw	kit-huw
	Pl /r/	ruluŋ	ra-rawaʔ	ʔasuran	ma-takur	katu-hur
Sed	Tn /r/	—	rawaʔ	qbsuran	m-takur	qte-hur
	Td /r/	ruluŋ	rawaʔ	qbsuran	m-takur	qtə-hur
	Tr /r/	ruluŋ	rawaʔ	ʔbsuran	m-takur	ʔtə-hur
	In /r/	ruluŋ	rawaʔ	qbsuran	m-takur	qtə-hur
PA	*r	*ruluŋ	*rawaʔ	*qəbəsuran	*ma-takur	*kitə-hur

Atayal *r became /z/ before /i/ in Squliq and Maspaziʔ, though not in Skikun or Mayrinax:

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21. Mayrinax has two sub-dialects: Tabilas and Sahiyaŋ, with minor differences. One phonetic difference is between Tabilas /w-/ and Sahiyaŋ /ʔ-/, both being derived from PA *r- before *a:

	Tabilas	Sahiyaŋ	
	waŋriʔ	ʔaŋriʔ	'small fly'
	waŋaw	ʔaŋaw	'big fly'
	wahuw	ʔahug	'type of slippery fish'
	kliʔ	ʔakliʔ	'leopard'
Exceptions:	wawaʔ	wawaʔ	'bamboo basket'
	waqanux	waqanux	'deer'

Sahiyaŋ may have borrowed the above two irregular forms from Tabilas since they are geographically very close to each other.

			'wet'	'buy'	'return'	owl'	'hoe'
Ata	Sq	/z/	m-huziq	maziy	m-zinah	ŋuziq	—
	Ms	/z/	ma-huziʔ	ma-baziy	p-bazinah	—	pazih
	Sk	/y/	m-huyiq	m-bes	m-binah	—	payih
					<m-byinah		
	Mx	/w/	ma-huwiq	ma-baynay/	ma-bwinah	—	(payih)
				ma-baay			
	Pl	/r/	ma-huriʔ	miniy	mu-bwinah	—	—
Sed	Tn	/r/	m-huriq	maruy	m-rinah	ŋuriq	parih
	Td	/r/	m-huriq	mariʔ	m-brinah	ŋuriq	parih
	Tr	/r/	m-huriʔ	marig	m-brinah	—	parih
	In	/r/	m-huriq	marig	m-brinah	—	parih
PA		*r	*ma-huriq	*ma-barig'	*ma-brinah	*ŋuriq	*parih

Between identical vowels and *ə__u, *r is lost in both Mayrinax and Palŋawan. Furthermore in the latter, the long vowels are shortened.

			'many'	'left'	'cap'	'pestle'	'six'
Ata	Sq	/z, y/	—	ʔzil	cyasiʔ	qsizuʔ	tizuʔ
	Ms	/y/	ha-bayaw	(ʔaʔil)	(cyasiʔ)	ʔsuyuʔ	ma-tayuʔ
	Sk	/y/	—	ʔiyil	(tyasiʔ)	qsuyuʔ	m-tuyuʔ
	Mx	∅	ha-baag	ʔiil	taasiʔ	qasuuʔ	ma-tuuʔ
	Pl	∅	—	ʔil	(tarasiʔ)	ʔasuʔ	ma-tuʔ
Sed	Tn	/r/	h-baro	ʔiril	trasiʔ	seruʔ	m-m-teruʔ
	Td	/r/	h-baraw	ʔiril	trasiʔ	səruʔ	m-təruʔ
	Tr	/r/	h-baraw	ʔiril	trasiʔ	səruʔ	m-təruʔ
	In	/r/	h-barag	ʔiril	tarasiʔ	səʔəruʔ	m-təruʔ
PA		*r	*ha-barag	*ʔiril	*tarasiʔ	*qasəruʔ	*ma-təruʔ

2.15 The correspondence of /l/ is regular in all positions in all dialects:

			'child'	'call'	'twenty'	'money'	'fence'
Ata	Sq	/l/	laqiʔ	m-lawaʔ	pusal	pilaʔ	—
	Ms	/l/	laʔiʔ	ma-lawaʔ	ma-pusal	pilaʔ	ʔ-an-alaŋ
	Sk	/l/	laqiʔ	m-lawaʔ	pusal	pilaʔ	q-n-alaŋ
	Mx	/l/	ʔulaqiʔ	—	ma-pusal	pilaʔ	q-in-alaŋ
	Pl	/l/	ʔuleʔ	ma-lawaʔ	ma-pusal	pilaʔ	ʔ-in-alaŋ
Sed	Tn	/l/	laqiʔ	m-lawaʔ	m-pusal	pilaʔ	q-na-laŋ
	Td	/l/	laqiʔ	m-lawaʔ	m-pusal	pilaʔ	q-na-laŋ
	Tr	/l/	laʔiʔ	m-lawaʔ	m-pusal	pilaʔ	ʔ-n-alaŋ
	In	/l/	laqiʔ	m-lawaʔ	m-pusal	pilaʔ	q-n-alaŋ
PA		*l	*ʔulaqiʔ	*ma-lawaʔ	*ma-pusal	*pilaʔ	*q-in-alaŋ

2.16 The correspondence /n/ is also regular in all dialects:

		'where'	'when'	'daughter-in-law'	'not'	'weave'
Ata Sq	/n/	ʔinuʔ	knwan	ʔinaʔ	ʔiniʔ	t-m-inun
Ms	/n/	ʔinuʔ	knuwan	ʔinaʔ	ʔiniʔ	t-m-inun
Sk	/n/	ʔinuʔ	knwan	ʔinaʔ	ʔiniʔ	t-m-inun
Mx	/n/	ʔinuʔ	kanuwan	ʔinaʔ	ʔiniʔ	t-um-inuq/
						t-um-inun
Pl	/n/	ʔinuʔ	kanwan	ʔinaʔ	ʔiniʔ	t-um-inuʔ
Sed Tn	/n/	ʔinuʔ	knuwan	ʔinaʔ	ʔiniʔ	t-m-inun
Td	/n/	ʔinuʔ	knuwan	ʔinaʔ	ʔiniʔ	t-m-inun
Tr	/n/	ʔinuʔ	knuwan	ʔinaʔ	ʔiniʔ	t-m-inun
In	/n/	ʔinuʔ	knuwan	ʔinaʔ	ʔiniʔ	t-m-inun
PA	*n	*ʔinuʔ	*kanuwan	*ʔinaʔ	*ʔiniʔ	*t-um-inun

No example has been found to occur in initial position across the whole group.

2.17 The correspondence of the /m/ series is regular in the prevocalic position in all dialects:

		'who'	'winter'	'old'	'bring'	'go'
Ata Sq	/m-/	ʔimaʔ	qmis-an	smural	maras	musaʔ
Ms	/m-/	ʔimaʔ	ʔamis-an	—	maras	musaʔ
Sk	/m-/	ʔimaʔ	qmis-an	smural	(maray)	musaʔ
Mx	/m-/	ʔimaʔ	qamis-an	—	maras	m-a-usaʔ
Pl	/m-/	ʔimaʔ	—	—	maras	musaʔ
Sed Tn	/m-/	ʔimaʔ	mis-an	—	madis	—
Td	/m-/	ʔimaʔ	mis-an	smudal	madas	mosaʔ
Tr	/m-/	ʔimaʔ	mis-an	smudal	madas	musaʔ
In	/m-/	ʔimaʔ	mis-an	smudal	madas	musaʔ
PA	*m-	*ʔimaʔ	*qamis-an	*smudal	*madas	*musaʔ

Note the irregular change of the second vowel *a > i in Toŋan.

In the postvocalic position, /-m/ in most Atayal dialects corresponds to /-ŋ/ in Palŋawan and Sediq:

		'lip'	'dark'	'pork'	'taste'
Ata Sq	/-m/	prahum	mn-kum	syam	t-m-alam
Ms	/-m/	parhum-an	mn-kuʔum	siyam	t-m-alam
Sk	/-m/	prahum	mn-kum	syam	t-m-alam
Mx	/-m/	parahum	mana-kuʔum	siyam	t-um-alam
Pl	/-ŋ/	parahuŋ	miŋ-kuŋ	syaŋ	t-um-alaŋ
Sed Tn	/-ŋ/	pdahuŋ	mn-kuʔuŋ	siyaŋ	t-m-alaŋ
Td	/-ŋ/	pdahuŋ	mn-kuuŋ	siyaŋ	t-m-alaŋ
Tr	/-ŋ/	pdahuŋ	m-kuuŋ	siyaŋ	t-m-alaŋ
In	/-ŋ/	pdahuŋ	m-kuuŋ	siyaŋ	t-m-alaŋ
PA	*-m	*padahum	*mana-kuʔum	*siyam	*t-um-alam

The shift of the final labial nasal to velar parallels that of the final labial stops; see §2. 1 and §2. 6.

2. 18 The correspondence of /ŋ/ occurs in all dialects in all positions:

		'tail'	'beard'	'molar'	'sticky'	'think'
Ata Sq	/ŋ/	ŋuŋuʔ	ŋurus	karaŋ	t-rŋil	m-ŋluŋ
Ms	/ŋ/	—	ŋurus	—	—	l-m-ŋaluŋ
Sk	/ŋ/	ŋuŋuʔ	ŋurus	—	m-rŋil	m-ŋluŋ
Mx	/ŋ/	(ŋaʔŋuʔ)	ŋa-ŋurus	—	—	l-um-aŋluŋ
Pl	/ŋ/	ŋuŋuʔ	ŋur̃us	—	mu-r̃aŋil	luŋluŋ
Sed Tn	/ŋ/	ŋuŋuʔ	ŋudus	kadaŋ	(m-deŋul)	lmŋeluŋ
Td	/ŋ/	ŋuŋuʔ	ŋudus	kadaŋ	m-dəŋil	lmŋəluŋ
Tr	/ŋ/	ŋuŋuʔ	ŋudus	kadaŋ	m-dəŋil	lmŋəluŋ
In	/ŋ/	ŋuŋuʔ	ŋudus	kadaŋ	m-dəŋil	lmŋəluŋ
PA	*ŋ	*ŋuŋuʔ	*ŋudus	*kadaŋ	*dəŋil	*l-um-aŋəluŋ

2. 19 The correspondence of /w/ (see also §2. 25):

			'honeybee'	'fang'	'thread'	'call'	'bamboo basket'
Ata	Sq	/w/	waluʔ	waqit	wayay	m-lawaʔ	yawaʔ
	Ms	/w/	—	waʔit	wayay	ma-lawaʔ	yawaʔ
	Sk	/w/	—	waqic	wayay	m-lawaʔ	yawaʔ
	Mx	/w/	—	waqit	wa'ay	—	wawaʔ
	Pl	/w/	—	wa-wa'ic	wariy	ma-lawaʔ	ra-rawaʔ
Sed	Tn	/w/	waluʔ	waqic	ware	m-lawaʔ	rawaʔ
	Td	/w/	waluʔ	waqic	waray	m-lawaʔ	rawaʔ
	Tr	/w/	waluʔ	waʔic	waray	m-lawaʔ	rawaʔ
	In	/w/	waluʔ	waqic	waray	m-lawaʔ	rawaʔ
PA	*w		*waluʔ	*waqit	*waray	*ma-lawaʔ	*rawaʔ

2. 20 The correspondence of /y/ is regular (see also §2. 26):

			'inland'	'thing'	'hang down'	'annoyed'
Ata	Sq	/y/	k-rayaʔ	qayaʔ	s-p-qayaʔ	s-m-aqayaʔ
	Ms	/y/	mak-rayaʔ	ʔay-ʔayaʔ		s-m-aʔayaʔ
	Sk	/y/	rayaʔ	q-qayaʔ		—
	Mx	/y/	maka-rayaʔ	—	—	—
	Pl	/y/	r̃e-tux	ya-'ayaʔ	pa-'ayaʔ	(s-m-ʔay-'ayaʔ)
Sed	Tn	/y/	dayaʔ	(qyu-qeyaʔ)	q-m-eyaʔ	s-m-qeyaʔ
	Td	/y/	dayaʔ	q-qiyaʔ	m-qiyaʔ	s-m-qiyaʔ
	Tr	/y/	dayaʔ	ʔ-ʔayaʔ	m-ʔayaʔ	s-m-ʔayaʔ
	In	/y/	dayaʔ	qayaʔ	m-qayaʔ	s-m-qayaʔ
PA	*y		*dayaʔ	*qəyaʔ	*-qəyaʔ	*s-m-qəyaʔ

There is no example for this correspondence in word-initial position.

2. 21 The correspondence of /a/ is regular:

			'we (inc.)'	'inland'	'ragged'	'husked rice'	'to warm, roast'
Ata	Sq	/a/	ʔitaʔ	k-rayaʔ	m-s-galiq	buwax	malah
	Ms	/a/	ʔitaʔ	mak-rayaʔ	ma-galiʔ	buwax	malah
	Sk	/a/]	ʔitaʔ	rayaʔ	m-galiq	buwax	malah
	Mx	/a/	ʔitaʔ	maka-rayaʔ	ma-galiq	buwax	malah
	Pl	/a/	ʔitaʔ	r̃e-tux	ma-galiʔ	box	malah
Sed	Tn	/a/	ʔitaʔ	dayaʔ	m-s-galiq	buwax	malah
	Td	/a/	ʔitaʔ	dayaʔ	m-waliq	buwax	malah
	Tr	/a/	ʔitaʔ	dayaʔ	—	buwax	malah
	In	/a/	ʔitaʔ	dayaʔ	—	buwax	malah
PA	*a		*ʔitaʔ	*dayaʔ	*ma-galiq	*buwax	*malah

2. 22 The correspondence of /i/:

			'friend'	'daughter-in-law'	'you (sg.)'	'where'	dream'
Ata	Sq	/i/	raŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	m-spiʔ
	Ms	/i/	raŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	s-m-pi-yal
	Sk	/i/	raŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	m-spiʔ
	Mx	/i/	—	ʔinaʔ	ʔisuʔ	ʔinuʔ	s-um-api-yal
	Pl	/i/	řaŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	ma-spel
Sed	Tn	/i/	daŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	m-sepiʔ
	Td	/i/	daŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	m-səpiʔ
	Tr	/i/	daŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	m-səpiʔ
	In	/i/	daŋiʔ	ʔinaʔ	ʔisuʔ	ʔinuʔ	m-səpiʔ
PA		*i	*daŋiʔ	*ʔinaʔ	*ʔisuʔ	*ʔinuʔ	*səpiʔ

2. 23 The correspondence of /u/:

			'vomit'	'body louse'[22]	'drunk'	'heart'
Ata	Sq	/u/	mutaq	sumiq	busuk	qsahuy
	Ms	/u/	mutaʔ	sumiʔ	ma-bs-in-uk	ʔasahuy
	Sk	/u/	mutaq	lumiq	m-s-in-uk	—
	Mx	/u/	mutaq	lumiq	mas-in-uk/ ma-busuk	qacahuw
	Pl	/u/	mutaʔ	lumiʔ	bas-n-uk-an	ʔacahur
Sed	Tn	/u/	mutaq	cumiq	bsuk-an	qcahur
	Td	/u/	—	cumiq	bsuk-an	qcahur
	Tr	/u/	—	sumiʔ	bsuk-an	ʔsahur
	In	/u/	—	sumiq	bsuk-an	qsahur
PA		*u	*mutaq	*cumiq	*ma-busuk	*qacahur

2. 24 The correspondence of /ə/ appears only in the penultimate syllable:

22. The development *c > l in Skikun, Mayrinax and Palŋawan took place sporadically when followed by a nasal. Cf. Proto-Formosan *cabu > PA *c-um-abuʔ > Sq /s-m-abuʔ/, Sk /c-m-abuʔ/, Mx and Pl /c-um-abuʔ/, Sediq /l-m-abuʔ/ 'wrap.' Also cf. PAN *cusuɣ > PA *l-um-uhug 'thread a needle,' PAN *caŋitʹ>PA *liŋis 'weep' (?).

			'flower'	'seed'	'edible fungus'	'hole'	'leopard'
Ata	Sq	ϕ	hpah	ghap	qluŋ	bliŋ	kliʔ
	Ms	/a/	—	ga-gahap	—	baliŋ	yakalit
	Sk	ϕ	phpah	ghap	qluŋ	bliŋ	kliʔ
	Mx	ϕ	pahpah	ga-ghap	qa-qluŋ	ma-bliŋ	ʔakliʔ
	Pl	ϕ	—	—	—	bliŋ	yaklic
Sed	Tn	/e/	phepah	(rehak)	qeluŋ	beliŋ	rkelic
	Td	/ə/	phəpah	(rəhak)	qəluŋ	bəliŋ	rkəlic
	Tr	/ə/	phəpah	gəhak	—	bəliŋ	rkəlic
	In	/ə/	phəpah	gəhak	qəluŋ	bəliŋ	rakəlic
PA		*ə	*pahəpah	*gəhap	*qəluŋ	*bəliŋ	*rakəlid

In the final syllable, PAN *ə has become /u/ in all Atayalic dialects. For instance, verbs with the suffix *-ən indicating the Referential Focus has become /-un/, as in Sq /bir-un/, SK /bes-un/, Mx /binas-un/, Pl/binaɼ-un/, Td /briw-un/, In /brig-un/ 'to buy.' Also PAN *[ˊ]ipən > PA *gipun > Mx giʔ-nux/gipun 'tooth.'

2. 25 In non-final position, only Maspaziʔ and Mayrinax retain /aw/; in all the other dialects it has changed to /o/ in the penultimate syllable or final syllable ending with a true consonant, and is lost before the penultimate syllable:

			'shrimp'	'scythe'	'men's basket'	'die'
Ata	Sq	/o/	boluŋ	sokiʔ	tokan	m-hoqil
	Ms	/aw/	bawluŋ	sawkiʔ	tawkan	ma-hawʔil
	Sk	/o/	(moluŋ)	sokiʔ	tokan	mn-oqil
	Mx	/aw/	—	sawkiʔ	tawkan	min-uqil/mna-huqil
	Pl	/o/	ba-buluŋ	—	tokan	ma-hu'il
Sed	Tn	/o/	boluŋ	—	tokan	m-huqil
	Td	/o/	boluŋ	sokiʔ	tokan	m-huqil
	Tr	/o/	boluŋ	sokiʔ	tokan	m-huʔil
	In	/o/	k-boluŋ	sokiʔ	tokan	m-huqil
PA		*aw	*bawluŋ	*sawkiʔ	*tawkan	*mana-hawqil

In final position, it has changed to /-o/ [ɔ:] only in Toŋan; most other dialects retain /-aw/; only Inago shows /-ag/:

		'above'	'clean water'	'shade'	'cat'	'fly (insect)'
Ata Sq	/-aw/	babaw	m-tasaw	sasaw	ŋiyaw	ŋ-liʔ
Ms	/-aw/	babaw-iʔ	ma-tasiʔ	sasiʔ	ŋiyaw	yaŋaw
Sk	/-aw/	babaw	m-tasaw	c-sasaw	ŋiyaw	ŋ-liʔ
Mx	/-aw/	babaw-iq	ma-tasiq/ ma-tasaw	sasiq/sasaw	ŋiyaw	waŋaw
Pl	/-aw/	baw-iʔ	m-tasiʔ	sasiʔ	ŋaw	raŋa-lic
Sed Tn	/-o/	bobo	m-taso	saso	ŋiyo	raŋo
Td	/-aw/	babaw	m-tasaw	sasaw	ŋiyaw	raŋaw
Tr	/-aw/	babaw	m-tasaw	sasaw	ŋiyaw	raŋaw
In	/-ag/	babag	m-tasag	sasag	ŋiyag	raŋag
PA	*-aw	*babaw	*ma-tasaw	*sasaw	*ŋiyaw	*raŋaw

This correspondence contrasts with that of /-aw, -ax, -o, -ag/ in §2.8. Inago /-g/ in this correspondence was an innovation. See Li 1981 for further discussion.

2.26 In the word-final position, Toŋan /-e/ [ε:] corresponds to /-iy/ in Palŋawan and /-ay/ in all the other dialects:

		'hungry'	'hip/anus'	thread'	'monkey'
Ata Sq	/-ay/	m-ʔuzay	sulay	wayay	yuŋay
Ms	/-ay/	—	sulay	wayay	yuŋay
Sk	/-ay/	—	sulay	wayay	yuŋay
Mx	/-ay/	—	—	wa'ay	wuŋay
Pl	/-iy/	ma-ʔuriy	—	wariy	ruŋiy
Sed Tn	/-e/	mu-ʔure	—	ware	ruŋe
Td	/-ay/	mu-ʔuray	sulay	waray	ruŋay
Tr	/-ay/	mu-ʔuray	sulay	waray	ruŋay
In	/-ay/	mu-ʔuray	sulay	waray	ruŋay
PA	*-ay	*mu-ʔuray	*sulay	*waray	*ruŋay

In the non-final syllable, only Ms and Mx retain /ay/:

		'stab'
Ata Sq	/e/	—
Ms	/ay/	mayta?
Sk	/e/	—
Mx		—
Pl	/e/	meta?
Sed Tn	/e/	metaq
Td	/e/	metaq
Tr	/e/	meta?
In	/e/	metaq
PA	*ay	*maytaq

Only one cognate has been identified for the above correspondence. The regular change ay > e in the non-final syllable is found in many lexical forms in both Squliq and Skikun.

In the non-word-final position, even in the final syllable ending with a true consonant, *ai is derived as /e/ in both Squliq and Skikun:

		'younger sibling'	'horse'
Ata Sq	/e/	s-sue?	rme?
Ms	/ai/	suwai?	ramai?
Sk	/e/	—	m-rme?
Mx	/ai/	suwai?	ramai?
Pl	/e/	suse?	řame?
Sed Tn	/ai/	swai?	dmai?
Td	/ai/	swai?	dmai?
Tr	/ai/	swai?	dmai?
In	/ai/	swai?	dmai?
PA	*ai	*suwai?	*damai?

2.27 Proto-Atayalic Phonology

In sum, the Proto-Atayalic phonology can be reconstructed as below:

p	t		k	q	?		
b	d	g'	g			i	u
		c				ə	
		s	x	h		a	
m	n		ŋ				
	l	r				aw, ay, uy	
w		y					

All consonants except *g′, *x, *n and *y (which do not appear word-initially) occur in all positions, i. e. word-initially, medially and finally. No vowel occurs word-initially.

3. From Proto-Austronesian to Proto-Atayalic to Modern Atayal

In this study, the Proto-Austronesian symbols generally follow Otto Dempwolff (1934-38), but with the subsequently revised phonemic distinctions between $*t_1$ and $*t_2$, $*n_1$ and $*n_2$ originally proposed by Ogawa and Asai (1935:6-7), as well as the additions of *q and *s (*S in Dyen and Dahl). The symbols $*t_1$ and $*n_1$ are written as the plain *t and *n respectively, while the small *c instead of the capital *C as used by Dyen is to stand for $*t_2$, and *ɬ as used by Otto Dahl to stand for $*n_2$ instead of *N as used by Dyen. Dempwolff's *j and *v are written as *y and *w respectively, as originally suggested by Dyen. The small *h is adopted for *H, originally reconstructed by Dyen (Tsuchida's $*H_1$).

The following is the PAN system tentatively adopted for this study:

									i		u
p	t	ṭ	t′	c	k′	k	q			ə	
b	d	ḍ	d′		g′	g					a
	s				ɣ		h				
m	n		n′		ŋ						
w		y									
	ɬ	l									

In the following derivations, modern Atayal is represented by Mayrinax, unless stated otherwise:

PAN	PA	Modern	PAN	PA	Modern
*p	> *p >	p	*pitu?	> *ma-pitu?	> ma-pitu? 'seven'
			*qaɬup	> *qalup	> q-um-aluap/q-um-alup 'hunt'
			*pag′ay	> *pag′ay	> Toda payay 'rice plant'
			*[′]iyup	> *miyup	> ?-um-iyup 'blow'
*t	>*t >	t	*tuɬa	> *tula-qig	> tula-qiy 'eel'
*ṭ			*tuba	> *tuba?	> ta-tuba? 'fish poison'
			*kiṭa	> *kita?	> k-um-ita-al 'see'

*k	>	*k	>	k	*kali	>	*kariʔ	> k-um-ai-huw/k-um-aiʔ 'dig'

*k > *k > k *kali > *kariʔ > k-um-ai-huw/k-um-aiʔ 'dig'
　　　　　　　　　*mabusuk > *mabusuk > bus-in-uk/ma-busuk 'drunk'
　　　　　　　　　*kaən > *kan- > kan-iq 'eat'

*q > *q > q *qabu > qabu-lid > qabu-liʔ 'ashes'
　　　　　　　　　*-utaq > *mutaq > mutaq 'vomit'
　　　　　　　　　*quway > *quway > quwa-niʔ 'rattan'

*b > *b > b *batu > *batu-nux > batu-nux 'stone'
　　　　　　　　　*babuy > *babuy > Sediq babuy 'pig'
　　　　　　　　　*babaw > *babaw > babaw-iq 'above'
　　　　　　　　　*ma-suab > *ma-surab > ma-suwag 'yawn'
　　　　　　　　　　　　　　*ma-suwab

*d ＼
*ḍ ——— *d > r *(dḍ)aqis²³ > *daqis > raqi-na-s 'face'
*dʹ ／
　　　　　　　　　*ḍapaɫ > *dapal > Squliq rapal 'sole'
　　　　　　　　　*ḍaya > dayaʔ > maka-rayaʔ 'inland'
　　　　　　　　　*dʹalan > *daran > ran-iq/raan 'road'
　　　　　　　　　*dʹaɣum > *dagum > raum/ragum 'needle'

　　　　＼ *r/__i *wiɣi > *qagum > qaum/qagum 'anteater'
　　　　　　　　　*kaɣi > *kariʔ > kaiʔ 'language'
*ɣ　　　　　　　*kaɣac > *kagac > k-um-aat 'bite'
　　　　　　　　　*qaɣum > *ʔiri-l > Toŋan ʔiri-l 'left'
　　　　＼ *g/else *baɣayaɣ > *bagayag > Palŋawan bagayaw 'Alocasia'
　　　　　　　　　*baɣah > *bagah > Squliq bagah 'charcoal'

*gʹ ——— *gʹ ＜ y/__# *bəligʹ > *ma-barigʹ > ma-ba-yn-ay/ma-baay 'buy'
　　　　　　　　s/else *pigʹa > *pigʹaʔ > Skikun pisaʔ 'how many'
　　　　　φ/*a__ə *baɣigʹa > *bagigʹaʔ > bagisaʔ 'reed of the loom'
　　　　　　　　　*sagʹək > *sauk > s-um-auk 'smell'

*s > *s > s *səpi > *səpiʔ > s-um-api-yal 'dream'
　　　　　　　　　*səpat > *səpat > sapa-a-t 'four'

Note the partial phonemic coalescence of PAN and PA *gʹ and *s in word-medial position.

PAN	PA	Modern	PAN		PA		Modern
		t/__#	*kəɣəc	>	*k-um-əguc	>	k-um-ut 'cut'
	*c —	c	*kucu	>	*kucuʔ	>	kuhiŋ/kucuʔ 'head louse'
*c			*caliŋa	>	*caŋi(r)aʔ²⁴	>	caŋiaʔ 'ear'
	*l/__nasal		*cusuɣ	>	*l-um-uhug	>	l-um-hug 'thread a needle'

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23. To have two symbols in parentheses in a reconstructed form indicates PAN doublets.
24. Note the metathesis of PAN *l and *ŋ in PA and the loss of PA *r.

*t' > > *h > h	*bat'uq	>	*ma-bahuq	> ma-bahuq 'wash clothes'
*h /	*but'uɣ	>	*buhug	> buh-in-ug 'bow'
	*ɬət'uŋ	>	*luhuŋ	> luh-i-uŋ/luhuŋ 'mortar'
	*hapuy	>	*hapuy	> hapu-niq/hapuy 'fire'
	*buhut	>	*buhut	> bhut 'squirrel'
	*qumah	>	*qumah	> Squliq m-qumah 'to weed'
*ɬ > > *l > l	*tuɬa	>	*tula-qig	> tula-qiy 'eel'
*n' /	*qaɬup	>	*qalup	> q-um-aluap/q-um-alup 'hunt'
	*qan'ud	>	*qaluic	> ma-qaluit 'flow'
	*qa(nn')itu	>	*qaliutux	> Ms ʔaliutux 'ghost'
	ʔ/#__	*lima	> *rima?	> ʔima-gal 'five'
*l > *r — φ/a__a	*laŋaw	> *raŋaw	> ʔaŋaw 'fly'
	w/else	*d'alan	> *daran	> ran-iq/raan 'road'
		*bəlig'	> *ma-barig'	> ma-ba-yn-ay/ma-baay 'buy'
*w > *w — ʔ/#__i	*wiɣi	> *ʔiri-l	> Tn ʔiri-l 'left'
	w/else	*waɣi	> *wagi	> wagi? 'sun'

Note that PA *r and *w are partially merged in Mayrinax.

*y >	*y >	y	*ḍaya	>	*ḍaya?	> maka-raya? 'inland'
*m >	*m >	m	*ma(n)taq	>	*mataq	> mat-il-uq/mataq 'raw'
			*qumah	>	*ma-qumah	> Sk m-qumah 'to weed'
*n >	*n >	n	*tinun	>	*tinun	> t-um-inuq/t-um-inun 'weave'
			*[']ipən	>	*gipun	> gi?-nux/gipun 'tooth'
*ŋ >	*ŋ >	ŋ	*paŋdaɬ	>	*paŋdan	> paŋran 'pineapple'
			*ciŋas	>	*ciŋas	> Pl ciŋas 'food particles'
*a >	*a >	a	*ɬaŋuy	>	*laŋuy	> l-um-aŋuy 'swim'
			*casiq	>	*caqis	> c-um-aqis 'sew'
*i >	*i >	i	*kita	> *ʔita?	> ʔita? 'we (inc.)'
			*qamis-an	> *qamis-an	> qamis-an 'winter'
			*inu	> *ʔinu?	> ʔinu? 'where'
*u >	*u >	u	*kucu	> *kucu?	> kuhiŋ/kucu? 'head louse'
			*i-su	> *ʔisu?	> ʔisu? 'you (sg.)'
*ə < *u > u	*təlu	> *təru?	> tuu? 'three'
	*ə > u	*bənaqi	> *bunaqig	> bunaqiy 'sand'
		*daɣəq	> *daguq	> rauq/?utiq 'earth'
*aw >	*aw >	aw	*laŋaw	> *raŋaw	> ʔaŋaw 'fly'
			*babaw	> *babaw	> babaw-iq 'above'
*ay >	*ay >	ay	*pag'ay	> *pag'ay	> Sq pagay 'rice plant'

	*bəɣay	> *bəgay	> In məgay 'give'
*uy ⟍			
⟍ *uy > uy	*łaŋuy	> laŋuy	> l-um-aŋuy 'swim'
*iw ⟋	*kahiw	> *kahuy	> kahu-niq/kahuy 'tree'

There are exceptions to the above rules. Atayalic reflexes of PAN *k′ and *g require further investigation.

One problem with Atayalic historical phonology is the appearance of an intervocalic consonant (usually /r/), or sometimes a final consonant (such as /g/) where there is nothing in other Austronesian languages, as in the examples below:[25]

Proto-other Austronesian	PA	Modern Atayal
*ma-suab	*ma-surab	m-surap (Td) 'yawn'
*babaw	*babaraw	bbaraw (Td) 'high'
*siłuq	*sinirug	siniyug (Mx) 'string, necklace' / silug (In)
*səpat	*səpat	pa-ra-t (Pl) 'four'
*bənaqi	*bunaqig	bunaqiy (Mx) 'sand' / bunaqig (Mt)

These irregular forms are probably the result of changes in Atayal male speech forms. Unfortunately the anticipated female regular forms have been lost in Mayrinax if they ever existed at all.

Some Atayalic forms still remain a puzzle today. Some can be explained as the result of innovations in male speech forms, but for some others there is no evidence of this sort. I suspect that many female forms have been lost in Mayrinax. For instance, we have got only the form /batunux/ 'stone' for both male and female speakers, but not the anticipated female form *batuʔ. Similarly, we have the following male forms, but not the anticipated female forms:

		Existing Male Forms	Anticipated Female Forms	
1.	'eel'	tula-qiy	*tulaʔ	Cf. PAN *tula
2.	'ash'	qabu-liʔ	*qabuʔ	Cf. PAN *qabu
3.	'bow'	buh-in-ug	*buhug	Cf. PAN *but′uɣ

25. I owe Robert Blust a great deal for pointing out to me this most puzzling feature of Atayalic historical phonology.

4. 'face'	raqi-na-s	*raqis	Cf. PAN *(dḍ)aqis
5. 'five'	ʔima-gal	*rimaʔ	Cf. PAN *lima, Sediq rimaʔ
6. 'dream'	s-um-api-al	*s-um-apiʔ	Cf. PAN *səpi, Sediq m-səpiʔ
7. 'see'	k-um-ita-al	*k-um-itaʔ	Cf. PAN *kiṭa, Ms k-um-itaʔ
8. 'rattan'	quwa-niʔ	*quway	Cf. PAN *quway

Conversely, we also find a few female forms, but not the anticipated male forms:

		Anticipated *Male Forms*	*Existing* *Female Forms*	
1.	'taro'	*cai-huw	caiʔ	Cf. Mt & Sx say-huy, Pl ce-hur, Sk ce-huy, Sq se-huy
2.	'camphor laurel'	*rak-in-us	rakus	Cf. Ms, Sx & Pl rak-in-us, Sq k-n-us, Sk & Mn rk-na-s
3.	'sweet potato'	*buŋa-hiʔ	buŋaʔ	Cf. Mt buŋa-hiʔ, Sq, Ms, Sk & Sx ŋa-hiʔ
4.	'tongue'	{ *hma-liʔ { *hma-quw	hmaʔ	Cf. Sq, Sk & Mn hma-liʔ, Pl hama-lic, Ms, Mt & Sx hama-ʔuy
5.	'sun'	*wagi-tux	wagiʔ	Cf. Mt wagi-tux, Ms & Sx wawi-tux

APPENDIX I. LIST OF ATAYALIC COGNATES

		above	*Alocasia*	*angry*	*annoyed*	*answer*
Ata	Sq	babaw	bgayaw	—	s-m-aqayaʔ	s-m-yuk
	Ms	babaw-iʔ	(bagaciʔ)	—	s-m-aʔayaʔ	s-um-iyuk
	Sk	babaw	bgayax	msʔaŋ	—	c-m-yuk
	Mx	babaw-iq	(bagatiʔ)	masʔaŋ	—	c-um-iyuk
	Pl	baw-iʔ	bagayaw	masaʔaŋ	s-m-ʔay-ʔayaʔ 凌亂	c-um-yuk
Sed	Tn	bobo	brayo	mseaŋ	s-m-qeyaʔ	c-m-iyuk
	Td	babaw	brayaw	msaaŋ	s-m-qiyaʔ	c-m-iyuk
	Tr	babaw	brayaw	msaaŋ	s-m-ʔayaʔ	s-m-iyuk
	In	babag	brayag	msaaŋ	s-m-qayaʔ	s-m-iyuk
PA		*babaw	*bagayag	*masəʔaŋ	*s-um-aqəyaʔ	*c-um-iyuk

		ant	*ant-eater*	*ashes*	*bamboo*	*banana*
Ata	Sq	qtahiʔ	qom	qbu-liʔ	takan	buquh
	Ms	(katahiʔ)	ʔagum	ʔabu-lit	btakan	gaʔ-il-uh
	Sk	qtahiʔ	q-qom	qbu-liʔ	btakan	guquh
	Mx	qatahiʔ	qaum/qagum	qabu-liʔ	batakan	guq-il-uh/guquh
	Pl	—	ʔoŋ	ʔabu-lic	batakan	gaʔ-il-uh
Sed	Tn	qtahiʔ	ʔaruŋ	qbu-lic	btakan	blebul
	Td	—	ʔaruŋ	qbu-lic	btakan	bləbul
	Tr	ʔtahiʔ	ʔaruŋ	ʔbu-lic	btakan	bləbul
	In	qtahiʔ	ʔaruŋ	qabu-lic	btakan	bləbul
PA		*qatahiʔ	*qagum	*qabu-lid	*batakan	*bləbul

		bamboo basket	*man's basket*	*women's basket*	*winnowing basket*
Ata	Sq	yawaʔ	tokan	kiriʔ	lukuʔ
	Ms	yawaʔ	tawkan	—	balukuʔ
	Sk	yawaʔ	tokan	kagisiʔ	blukuʔ
	Mx	wawaʔ	tawkan	kagisiʔ	baluhiŋ/balukuʔ
	Pl	ra-rawaʔ	tokan	kagiřiʔ	balukuʔ
Sed	Tn	rawaʔ	tokan		—
	Td	rawaʔ	tokan		bluhiŋ
	Tr	rawaʔ	tokan		bluhiŋ
	In	rawaʔ	tokan		blukuʔ 小, bluhiŋ 大
PA		*rawaʔ	*tawkan		*baluhiŋ/balukuʔ

		beard	*beautiful*	*bed*	*bedbug*	*belch*	*belly*
Ata	Sq	ŋurus	—	—	pitay		—
	Ms	ŋurus	baytunux	pagaʔ	—	sbusuk	na-buwas
	Sk	ŋurus	betunux	paʔ	pitay	(sbyacuk)	n-bwas
	Mx	ŋa-ŋurus	mag-batunux	pagaʔ	—	sibacuk-an	na-buwas
	Pl	ŋuřus	—	paʔ	—		na-bos
Sed	Tn	ŋudus	m-btunux	pagaʔ	—	sbsuk-un	n-buyas
	Td	ŋudus	m-btunux	pawaʔ	t-pitay	sb-ra-suk	m-buyas
	Tr	ŋudus	m-btunux	—	t-pitay		m-buyas
	In	ŋudus	m-btunux	—	—		n-buyas
PA		*ŋudus	*mag-baytunux	*pagaʔ	*pitay	*sibacuk	*na-buyas

		belt	bird	bite	bitter, hot, sour	bitter	black
Ata	Sq	habuk	qh-niq	k-m-at	m-ŋihuy 酸	q-m-upaŋ	qalux
	Ms	habuk	kabha-ni?	k-am-aat	ma-ŋihuy 酸	?-am-apaŋ	(ma-kalux)
	Sk	habuk	qh-niq	k-m-ac	m-nihuy	q-m-upaŋ	—
	Mx	ha-hbuk	kabah-niq	k-um-aat	ma-ŋihuw 苦，辣	q-um-upaŋ	—
	Pl	habuk	kabah-ni?	k-um-ac	ma-ŋihur 辣，酸，鹹	sa-'upaŋ	(ma-kalux)
Sed	Tn	(habik)	qbhe-ni?		m-ŋihur 辣	(pmepaŋ)	qalux
	Td	habuk	qbhə-ni?		m-nihur	(pəŋpaŋ)	m-qalux
	Tr	habuk	qbhə-ni?		m-nihur		m-?alux
	In	habuk	—		m-nihur	q-m-upaŋ	m-qalux
PA		*habuk	*kabah-niq	*k-um-agac	*ma-nihur / *ma-ŋihur	*q-um-upaŋ	*ma-qalux

		blood	blow	boat	bow	bowl	brain, marrow
Ata	Sq	ramu?	mzyup	qasu?	—	pyatu?	luqus
	Ms	ramu-yux	(yumup)	?asu?	bah-in-u?	pyatu?	lu?us
	Sk	ramu?	miyup	qasu?	bh-en-ux	pyatu?	luqi?
	Mx	ramu-ux	?-um-iyup	—	buh-in-ug	—	luqi?/luqus
	Pl	r̃amu-rux	(yumuk)	?asu?	bahu-ni?	—	—
Sed	Tn	dara?	miyuk	?asu?	bhe-naq	—	luqi?
	Td	dara?	miyuk	?asu?	bhə-niq	—	luqi?
	Tr	dara?	miyuk	?asu?	bhə-ni?	pratu?	lu?i?
	In	dara?	miyuk	?asu?	bah-niq	pratu?	luqi?
PA		*damu? / *daga?	*?iyup	*qasu?	*buhug	*pratu?	*luqi?/luqus

		breasts	bridge	bring	broil	bud 含在口中之物
Ata	Sq	bubu?	—	maras	s-m-ayuk	mumul
	Ms	bubu?	—	maras	s-m-ayuk	—
	Sk	bubu?	—	(maray)	s-m-ayuk	mumul
	Mx	xuxu?	hakri?/ hakaw	maras	—	mumul
	Pl	bubu?	—	maras	s-um-aruk	mumul
Sed	Tn	nunuh	hako	(madis)	s-m-aruk	mk-mumul
	Td	nunuh	hakaw	madas	s-m-aruk	mk-mumul
	Tr	nunuh, ?unuh	hakaw	madas	—	mk-mumul
	In	(?unuh)	hakag	madas	s-m-aruk	t-mumul
PA		*nunuh	*hakaw	*madas	*s-um-aruk	*mumul

		burn	buy	call	camphor laurel	cat
Ata	Sq	—	maziy	m-lawaʔ	k-n-us	ŋiyaw
	Ms	—	ma-baziy	ma-lawaʔ	rak-in-us	ŋiyaw
	Sk	l-m-om	m-bes	m-lawaʔ	rk-n-as	ŋiyaw
	Mx	—	ma-ba-yn-ay/ma-baay	—	rakus	ŋiyaw
	Pl	l-m-oŋ	miniy	ma-lawaʔ	rak-in-us	ŋaw
Sed	Tn	l-m-auŋ	maruy	m-lawaʔ	(cakus)	ŋiyo
	Td	l-m-auŋ	mariʔ	m-lawaʔ	(cakus)	ŋiyaw
	Tr	l-m-auŋ	marig	m-lawaʔ	(sakus)	ŋiyaw
	In	l-m-auŋ	marig	m-lawaʔ	(sakus)	ŋiyag
PA		*l-um-aum	*ma-barigʹ	*ma-lawaʔ	*dakus	*ŋiyaw

		cave, hole	charcoal	chew	child	choose	cicada
Ata	Sq	bliŋ	bagah	s-m-kon	laqiʔ	gmoyaw	—
	Ms	baliŋ	bagah	pi-skan-iy	laʔiʔ	mwayaw	riyay
	Sk	bliŋ	bagah	p-skan	laqiʔ	moyax	—
	Mx	ma-bliŋ 漏洞 (batah)	pi-skan-an	ʔulaqiʔ	mwaag	riyay
	Pl	bliŋ	—	pi-skan-i	ʔuleʔ	gumoraw	—
Sed	Tn	beliŋ	bagah	m-sekan	laqiʔ	gmao	k-diye
	Td	bəliŋ	bawah	m-səkan	laqiʔ	umaau	(k-diyac)
	Tr	bəliŋ	bagah	m-səkan	laʔiʔ	gmgaaw	(k-jiyac)
	In	bəliŋ	bagah	pa-skan	laqiʔ	gmaʔag	(k-jiyac)
PA		*bəliŋ	*bagah	*səkan	*ʔulaqiʔ		*k-diyay

		clean	climb	close[26]	cloth	clothes
Ata	Sq	m-tasaw	m-karaw	q-m-luʔ	galiq	lukus
	Ms	ma-tasiʔ	ma-karaw	ʔ-am-aluʔ	galiʔ	lukus
	Sk	m-tasaw	—	q-m-luʔ	m-galiq	lukus
	Mx	ma-tasiq/ma-tasaw	—	q-um-luʔ	ma-galiq	—
	Pl	m-tasiʔ	ʔuŋ-karaw	ʔ-un-luʔ	galiʔ	lukus
Sed	Tn	m-taso	m-karo	meluk	galiq	lukus
	Td	m-tasaw	—	məluk	waliq	lukus
	Tr	m-tasaw	m-karaw	(məduk)	galiʔ	lukus
	In	m-tasag	m-karaw	məduk	galiq	lukus
PA		*ma-tasiq/ma-tasaw	*ma-karaw	*qəlub, *qəlud	*galiq	*lukus

26. The reflexes of the Atayal dialects for PA are *-d, whereas the reflexes of the Sediq dialects
    are *-b. The Atayal dialects have gone one step further than Sediq in the sound change:
    -b>-d. However, the regular reflexes of the Atayal dialects for PA *-d are /-ʔ/ and /-t/,
    so there might have been inter-dialectal borrowing in Atayal.

		cloud	cold (thing)	cover	cow	crab	crow	cut
Ata	Sq	yuluŋ	tłtuʔ	mumuk	—	kagaŋ	cyaquŋ	k-m-ut
	Ms	yuluŋ	tłʔatuʔ	—	rapaʔ	kagaŋ	—	k-m-ut
	Sk	yuluŋ	ltuʔ	mumuk	—	(kakaŋ)	cyaquŋ	k-m-uc
	Mx	—	tlaʔtuʔ	ʔ-um-umuk	—	ka-kagaŋ	(taquw)	k-um-ut
	Pl	ruluŋ	—	ʔ-um-umuk	řa-řapaʔ	ka-kagaŋ	teʔuŋ	k-um-uc
Sed	Tn	—	tleetuʔ	g-m-emuk	dapaʔ	karaŋ	tyaquŋ	k-m-eruc
	Td	ruluŋ	tłətuʔ	mumuk	dapaʔ	k-ra-raŋ	tyaquŋ	k-m-əruc
	Tr	ruluŋ	tłətuʔ	g-m-umuk	dapaʔ	k-karaŋ	cyaʔuŋ	k-m-əruc
	In	ruluŋ	leetuʔ	g-m-umuk	dapaʔ	(k-m-araŋ)	cyaquŋ	k-m-əruc
PA		*ruluŋ	*təlaʔətuʔ	*ʔ-um-umuk *g-um-əmuk	*dapaʔ	*kagaŋ	*tyaquŋ	*k-um-əguc

		dark	daughter-in-law	day	day after tomorrow	deer	deer, pygmy
Ata	Sq	mn-kum	ʔinaʔ	riyax	kaxaʔ	qa-nux	paraʔ
	Ms	mn-kuʔum	ʔinaʔ	riyax	ma-kaxaʔ	waʔa-nux	paraʔ
	Sk	mn-kum	ʔinaʔ	riyax	(m-kagaʔ)	qa-nux	paraʔ
	Mx	mana-kuʔum	ʔinaʔ	(riʔax)	ma--kaxaʔ	waqa-nux	paraʔ
	Pl	miŋ-kuŋ	ʔinaʔ	řex	ma-kaxaʔ	wa-nux	paraʔ
Sed	Tn	mn-kuʔuŋ	ʔinaʔ	—	m-kaxaʔ	rqe-nux	padaʔ
	Td	mn-kuuŋ	ʔinaʔ	diyax	m-kaxaʔ	rəqə-nux	padaʔ
	Tr	m-kuuŋ	ʔinaʔ	jiyax	m-kaxaʔ	rəʔə-nux	padaʔ
	In	m-kuuŋ	ʔinaʔ	jiyax	ŋ-kaxaʔ	raqə-nux	padaʔ
PA		*mana-kuʔum	*ʔinaʔ	*diyax	*ma-kaxaʔ	*raqə-nux	*padaʔ

		den, nest	die	dig	dream	drink	drip
Ata	Sq	—	m-hoqil	k-m-e-huy	m-spiʔ	—	—
	Ms	libuʔ	ma-hawʔil	k-am-ai-huy	s-m-pi-yal	—	—
	Sk	libuʔ	mn-oqil	k-m-e-huy	m-spiʔ	—	s-turiŋ
	Mx	libuʔ	min-uqil/ mna-huqil	k-um-ai-huw/ k-um-aiʔ	s-um-api-yal	—	m-si-turiŋ
	Pl	—	ma-hu'i	k-um-e-hur	ma-spel	—	ma-s-turiŋ
Sed	Tn	(tibuʔ)	m-huqil	k-m-ariʔ	m-sepiʔ	mimah	tudiq
	Td	(tibuʔ)	m-huqil	k-m-ariʔ	m-səpiʔ	mimah	tudiq
	Tr	libuʔ	m-huʔil	k-m-ariʔ	m-səpiʔ	mimah	tujiʔ
	In	libuʔ	m-huqil	k-m-ariʔ	m-səpiʔ	mimah	tujiq
PA		*libuʔ	*mana-hawqil	*kariʔ	*-səpiʔ	*mimah	*tudiŋ, *tudiq

		drunk	ear	earth	earthquake	earthworm	earwax
Ata	Sq	busuk	—	hiyal	ʔunuw	bisuw	qpuriʔ
	Ms	ma-bs-in-uk	—	raha-ya-l	(gunuw)	bisuw	ʔapuriʔ
	Sk	m-s-in-uk	—	(roq)	—	—	qpuriʔ
	Mx	bus-in-uk/	caŋiyaʔ	(rauq/	—	bicug	qapuriʔ
		ma-busuk		ʔutiq)			
	Pl	bas-n-uk-an	caŋeʔ	r̃ahal	(munuw)	bicuw	ʔapur̃iʔ
Sed	Tn	bsuk-an	—	dhe-ra-l	runuw	bicur	qpudiʔ
	Td	bsuk-an	—	dhə-ra-l	runuʔ	bicur	qpudiʔ
	Tr	bsuk-an	—	dhə-ga-l	runug	bisur	ʔpujiʔ
	In	bsuk-an	—	dhə-ga-l	runug	bisur	qpujiʔ
PA		*ma-busuk	*caŋiaʔ	*dahəl		*bicug	*qapudiʔ
				*daguq		*bicur	

		eat	eel	eight	elbow	epidemic	escape
Ata	Sq	man-iq (qan-iq)	tla-qiy	spat	hikuʔ	q-m-izuʔ	m-gyay
	Ms	man-iʔ	tala-ʔiy	ma-sapat	hikuʔ	ʔ-am-azit	ma-giyay
	Sk	man-iq (qan-iq)	tla-qiy	spac	hikuʔ	q-m-uyuʔ	m-gyas
	Mx	man-iq (qan-iq)	tula-qiy	ma-spat	hikuʔ	q-um-uuʔ	ma-giyay
	Mt		tula-ʔig				
	Pl	man-iʔ (kan-iʔ)	tula-'iy	ma-spac	hikuʔ		ma-giy
Sed	Tn	mekan (ʔekan)	(tuyaʔ)	m-m-sepac	(hiqur)	meruʔ	
	Tb	məkan (ʔəkan)	—	ma-səpac	(hiqur)	məruʔ	
	Tr	məkan	—	ma-səpac	(hiʔur)	məruʔ	
	In	məkan	—	ma-səpac	(hiqur)	məʔəruʔ	
PA		*kan	*tula-qig	*ma-səpat	*hikuʔ		

		evening	excrement	defecate	break wind, fart	eye
Ata	Sq	gbiyan	quciʔ	m-s-quciʔ	t-quciʔ	loziq
	Ms	gbiyan	quciʔ	ma-s-ʔutiʔ	ta-ʔutiʔ	loyiq
	Sk	gbiyan	ʔutiʔ	s-quciʔ	—	lawziʔ
	Mx	gabiyan	qutiʔ	ma-si-qutiʔ	tigi-qutiʔ	rawwiq
	Pl	gabiyan	ʔutiʔ	ma-s-'utiʔ	ti-'utiʔ	r̄oriʔ
Sed	Tn	(bbiyan)	qutiʔ	q-m-utiʔ	t-qutiʔ	doriq
	Td	—	qutiʔ	q-m-utiʔ	t-qutiʔ	doriq
	Tr	—	ʔuciʔ	ʔ-m-uciʔ	t-quciʔ	doriʔ
	In	gbiyan	quciʔ	q-m-uciʔ	t-quciʔ	doriq
PA		*gabiyan	*qutiʔ	*si-qutiʔ	*ti-qutiʔ	*dawriq

		face	fall	fang	far	fat, rough
Ata	Sq	rqi-ya-s	m-takuy	waqit	tohiq	qt-huy
	Ms	raʔi-ya-s	ma-takuy	waʔit	twahiʔ	kt-huy
	Sk	rqi-na-s	m-takuy	waqic	thiyaq	qt-huy
	Mx	raqi-na-s	ma-takuw	waqit	(tatuhiʔ)	kit-huw
	Pl	r̄a'-ya-s	ma-takur	wa-wa'ic	tuhiyaʔ	katu-hur
Sed	Tn	dqe-ra-s	m-takur	waqic	(theyaʔ)	qte-hur
	Td	dqə-ra-s	m-takur	waqic	thiyaq	qtə-hur
	Tr	dʔə-ra-s	m-takur	waʔic	thiyaʔ	ʔtə-hur
	In	daqə-ra-s	m-takur	waqic	(dhiyaq)	qtə-hur
PA		*daqis	*ma-takur	*waqit	*twahiyaq	*kitə-hur

		fear	fence	finger	fire	fish	fish-poison
Ata	Sq	m-ŋuŋuʔ	—	tluliŋ	pu-niq	—	tubaʔ
	Ms	ma-ŋuŋuʔ	ʔ-an-alaŋ	(cluliŋ)	pu-niʔ	ʔasi-yux	tubaʔ
	Sk	ma-ŋuŋuʔ	q-n-alaŋ	taluliŋ	pu-niq	—	tubaʔ
	Mx	—	q-in-alaŋ	ta-tiruliŋ	hapu-niq/hapuy	—	ta-tubaʔ
	Pl	ma-ŋuŋuʔ	ʔ-in-alaŋ	taluliŋ	hapu-niʔ	ʔuci-x	—
Sed	Tn	m-ŋuŋuʔ	q-na-laŋ	tludiŋ	pu-niq	qcu-rux	—
	Td	m-ŋuŋuʔ	q-na-laŋ	(kludiŋ)	pu-niq	qcu-rux	—
	Tr	—	ʔ-n-alaŋ	duliŋ	pu-niq	ʔsu-rux	tubaʔ
	In	m-ŋuŋuʔ	q-n-alaŋ	luliŋ	pu-niq	qsu-rux	tubaʔ
PA		*ma-ŋuŋuʔ	*q-in-alaŋ	*tiduliŋ	*hapu-niq/hapuy	*quci-rux	*tubaʔ

		fishweir	*five*	*flat*	*flesh, meat*	*flow, adrift*
Ata	Sq		ma-gal	bʔ-nux	hiʔ	m-qluiʔ
	Ms		ma-gal	bayʔa-nux	hiiʔ	ma-ʔaluit
	Sk		ʔima-gal	bʔ-nux	hiiʔ	—
	Mx	kawbuʔ	ʔima-gal	baʔ-nux	hihihihiʔ	ma-qaluit
	Pl	kobuʔ	rama-gal	bar-nux	hiiʔ	mulic
Sed	Tn	qobuʔ	rimaʔ	bree-nux	hiiʔ	(qluliʔ)
	Td	qobuʔ	rimaʔ	brə-nux	hiiʔ	(qluluy)
	Tr	ʔobuʔ	rimaʔ	brə-nux	hiiʔ	(ʔluliʔ)
	In	qawbuʔ	rimaʔ	brə-nux	hiiʔ	(qluliʔ)
PA		{ *kawbuʔ *qawbuʔ	*rimaʔ	*barəʔə-nux	*hiiʔ	*qaluic

		flower	*fly (insect)*	*food particles between teeth*	*four*	*friend*
Ata	Sq	hpah	ŋ-liʔ	—	pa-ya-t	raŋiʔ
	Ms	—	yaŋaw	siŋas	sapa-ya-t	raŋiʔ
	Sk	phpah	ŋ-liʔ	—	pa-ya-c	raŋiʔ
	Mx	pahpah	waŋaw	(ciŋaq)	sapa-a-t/supat	—
	Pl	—	raŋa-lic	ciŋas	pa-ra-t	r̃aŋiʔ
Sed	Tn	phepah	raŋo	(siŋas)	sepac	daŋiʔ
	Td	phəpah	raŋaw	liŋas	səpac	daŋiʔ
	Tr	phəpah	raŋaw	siŋas	səpac	daŋiʔ
	In	phəpah	raŋag	siŋas	səpac	daŋiʔ
PA		*pahəpah	*raŋaw	*ciŋas	*səpat	*daŋiʔ

		full	*edible fungus* 木耳	*ghost*	*give*
Ata	Sq	m-tŋiʔ	qluŋ	ʔutux	miq (biq)
	Ms	ma-tŋiʔ	—	ʔaliutux	maiʔ (baiʔ)
	Sk	m-tŋiʔ	qluŋ	ʔutux	miq (biq)
	Mx	ma-tŋiʔ	qa-qluŋ	ʔutux	maiq (baiq)
	Pl	ma-tŋiʔ	(ka-kaluŋ)	(ʔamutux)	miʔ (si-biʔ)
Sed	Tn	m-teŋiʔ	qeluŋ	ʔutux	mege (bege)
	Td	m-təŋiʔ	qəluŋ	ʔutux	muway (buway)
	Tr	m-təŋiʔ	—	ʔutux	məgay
	In	m-teŋiʔ	qəluŋ	ʔutux	məgay
PA		*ma-təŋiʔ	*qəluŋ	*ʔaliutux	*bəgay

		go	*goiter*		*hair*	*hair whorl*
Ata	Sq	musaʔ	—		sno-nux	qpuguʔ
	Ms	musaʔ	—		saynu-nux	qpuguʔ
	Sk	musaʔ	—		sno-nux	lapuguʔ
	Mx	m-a-usaʔ	(biʔix)		—	qalipuguʔ
	Pl	musaʔ	(baʔiy)		sinu-nux	—
Sed	Tn	—	biqir		snuu-nuɣ	—
	Td	mosaʔ	biqar		snu-nux	qlpawuʔ
	Tr	musaʔ	biʔir		snuu-nux	ʔlpaguʔ
	In	musaʔ	biqir		sno-nux	qapaguʔ
PA		*m-a-usaʔ	*biqər		*saynaw	*qalipaguʔ

		hair, gray	*happy*	*Jew's harp*	*he*	*head*	*help*
Ata	Sq	quriʔ	m-qas	lubuw	hiyaʔ	tunux	r-m-aw
	Ms	ʔuriʔ	—	lubuw	hiyaʔ	tunux	r-am-aaw
	Sk	ʔi-quriʔ	m-qas	lubuɣ	hiyaʔ	tunux	r-m-aɣ
	Mx	quriʔ/quras	ma-qas	lubug	ʔi-hiyaʔ	tunux	r-um-aag
	Pl	ʔuriʔ	ma-'as	lubuw	hiyaʔ	tunux	r-um-aw
Sed	Tn	qudiʔ	m-qaras	(tubuw)	heyaʔ	tunux	d-m-ayo
	Td	qudas	m-qaras	lubuʔ	hiyaʔ	tunux	d-m-ayaw
	Tr	ʔujiʔ	m-ʔaras	lubug	hiyaʔ	tunux	d-m-ayaw
	In	qujiʔ	m-qaras	lubug	hiyaʔ	tunux	d-m-ayag
PA		*qudiʔ/qudas	*ma-qaras	*lubug	*hiyaʔ	*tunux	*d-um-a(y)ag

		hemp plant	*high, cf. above*	*hip*	*hoe*	*hoe*
Ata	Sq	kgiy	—	sulay	—	karuh
	Ms	kagiy	babaw-iʔ	sulay	pazih	pakaruh
	Sk	kgis	baw-iq	sulay	payih	karuh
	Mx	kgiy	ʔi-babaw-iq	—	payih	pakaruh
	Pl	kuŋ-kagiy	babaw-iʔ	—	—	—
Sed	Tn	keguy	bbaro	—	parih	—
	Td	kəriʔ	bbaraw	sulay	parih	—
	Tr	kərig	bbaraw	sulay	parih	bkaruh
	In	kərig	babarag	sulay	parih	bkaruh
PA		*kəgigʹ	*babaraw	*sulay	*parih	*bakaruh

		hold (in hand)	honeybee	hornet (bee)	horse	hot (weather or thing)
Ata	Sq	—	walu?	triyuŋ	rme?	m-kilux
	Ms	—	—	tariyuŋ	ramai?	ma-kilux
	Sk	—	—	triyuŋ	rme?	m-kilux
	Mx	r-um-iril-iq	—	—	ramai?	ma-kilux
	Pl	(r̃-um-ir̃i?)	—	r̃iuŋ	r̃ame?	ma-kilux
Sed	Tn	d-m-idil	walu?	tdiyuŋ	dmai?	m-tilux
	Td	d-m-idil	walu?	tdiyuŋ	dmai?	m-tilux
	Tr	d-m-ijil	walu?	tjiyuŋ	dmai?	m-cilux
	In	d-m-ijil	walu?	tjiyuŋ	dmai?	m-cilux
PA		*d-um-idil	*walu?	*tədiyuŋ	*damai?	*ma-tilux
						*ma-kilux

		how many	hungry	hunt	I	
Ata	Sq	pira?	m-?uzay	q-m-alup	-ku?	s-aku?
	Ms	pisa?	—	q-m-alup	(-si)	
	Sk	pisa?	—	?-m-alup	(-cu)	
	Mx	(piya?)	—	q-um-aluap/q-um-alup	(-cu, -ci)	
	Pl	pir̃a?	ma-?uriy	—	(-cu)	
Sed	Tn	piya?	mu-?ure	—	-ku?	y-aku?
	Td	piya?	mu-?uray	(maduk)	-ku?	y-aku?
	Tr	piya?	mu-?uray	(maduk)	-ku?	y-aku?
	In	piya?	mu-?uray	(maduk)	-ku?	y-aku?
PA		*pig'a?	*mu-?uray	*q-um-alup	*-ku?	*-aku?

		immerse in water	inland, up	juice	knife	knock	lame
Ata	Sq	m-buw	k-raya?	buq	—	t-m-uciŋ	pika?
	Ms	?-am-abuw	mak-raya?	buq	putiŋ	t-m-utiŋ	ma-pika?
	Sk	m-bux	raya?	bu?	—	t-m-uciŋ	pika?
	Mx	?-um-ubug	maka-raya?	buq	—	t-um-utiŋ	—
	Pl	?-um-buw	r̃e-tux	bu?	putiŋ	t-um-utiŋ	ma-pika?
Sed	Tn	r-m-ebuw	daya?	beyuq	—	t-m-utiŋ	m-pika?
	Td	r-m-əbu?	daya?	biyuq	putiŋ	t-m-utiŋ	m-pika?
	Tr	r-m-əbug	daya?	biyu?	puciŋ	t-m-uciŋ	m-pika?
	In	r-əm-bug	daya?	biyuq	puciŋ	t-m-uciŋ	m-pika?
PA		*r-um-əbug	*daya?		*putiŋ	*t-um-utiŋ	*ma-pika?
		*?-um-ubug					

		language, word	late	a little later	leaf	leggings	left
Ata	Sq	keʔ	m-suqiʔ	kiraʔ	ʔabaw	s-ragiy	ʔzil
	Ms	kaiʔ	(ma-ksuʔiʔ)	kisaʔ	ʔabaw	s-ragiy	(ʔaʔil)
	Sk	keʔ	m-qciqiʔ	kisaʔ	ʔabax	c-ragis	ʔiyil
	Mx	kaiʔ	ma-qsicuqiʔ	kisaʔ	ʔabag	—	ʔiil
	Pl	keʔ	—	kiřaʔ	ʔabaw	(taragiy)	ʔiil
Sed	Tn	kariʔ	m-scuqiʔ	kiyaʔ	—	p-dagic	ʔiril
	Td	kariʔ	m-scuqiʔ	kiyaʔ	nabaw	p-dawic	ʔiril
	Tr	kariʔ	m-ʔsuʔiʔ	kiyaʔ	nabaw	p-dagic	ʔiril
	In	kariʔ	m-suqiʔ	kiyaʔ	—	dagic	ʔiril
PA		*kariʔ	*ma-qəsicuqiʔ	*kig'aʔ		*-dagig'	*ʔiril

		leopard	lie on one's side	lips	long time	reed of loom
Ata	Sq	kliʔ	—	prahum	bsiq	bziraʔ
	Ms	yakalit	(ma-t-ka-kiil)	parhum-an	bsiyaʔ	bagisaʔ
	Sk	kliʔ	m-t-k-kis	prahum	bsiyaq	bgisaʔ
	Mx	ʔakliʔ	(ma-k-si-ka-kil)	parahum	—	bagisaʔ
	Pl	yaklic	ma-s-ka-kiy	pařahuŋ	buseʔ	bagiřaʔ
Sed	Tn	rkelic		pdahuŋ	bsiyaq	bgiyaʔ
	Td	rkəlic		pdahuŋ	bsiyaq	bwiyaʔ
	Tr	rkəlic		pdahuŋ	bsiyaŋ	bgiyaʔ
	In	rakəlic	s-kiig	pdahuŋ	busiyaq	bgiyaʔ
PA		*rakəlid	*ma-si-ka-kig'	*padahum	*busiyaq	*bagig'aʔ

		loquat	body louse	head louse	low	lung	many (people)
Ata	Sq	gituʔ	sumiq	kuhiŋ	—	—	—
	Ms	—	sumiʔ	kuhiŋ	—	—	ha-bayaw
	Sk	—	lumiq	kuhiŋ	—	—	—
	Mx	ʔituʔ[27]	lumiq	kuhiŋ/kucuʔ	—	—	ha-baag
	Pl	gituʔ	lumiʔ	kuhiŋ	lalbuʔ	—	ha-baraw
Sed	Tn	gituʔ	cumiq	quhiŋ	llebuʔ	baraq	h-baro
	Td	wituʔ	cumiq	quhiŋ	lləbuʔ	baraq	h-baraw
	Tr	gituʔ	sumiʔ	ʔuhiŋ	lləbuʔ	baraʔ	h-baraw
	In	gituʔ	sumiq	quhiŋ	lləbuʔ	baraq	h-barag
PA		*gituʔ	*cumiq	*kuhiŋ/kucuʔ	*la-ləbuʔ	*baraq	*ha-barag

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27. The male form in Mayrinax may substitute /ʔ-/ for /g-/; see §1.6, No. 16. The anticipated female form /gituʔ/ has been lost.

		maple tree	middle	molar	money	monkey	moon	mortar
Ata	Sq	raga?	ska?	karaŋ	pila?	yuŋay	bya-ciŋ	luhuŋ
	Ms	raga?	saka?	—	pila?	yuŋay	baya-tiŋ	luhiyuŋ
	Sk	raa?	cka?	—	pila?	yuŋay	byal-iŋ	luhuŋ
	Mx	raa?/raga?	ma-cka-cka?	—	pila?	wuŋay	buwa-tiŋ	luh-i-uŋ/luhuŋ
	Pl	raa?	ca-cka?	—	pila?	runiy	bura-tiŋ	lahyuŋ
Sed	Tn	dara?	ck-ceka?	kadaŋ	pila?	ruŋe	—	duhuŋ
	Td	dara?	cəka?	kadaŋ	pila?	ruŋay	—	duhuŋ
	Tr	dara?	səka?	kadaŋ	pila?	ruŋay	—	duhuŋ
	In	dara?	səka?	kadaŋ	pila?	ruŋay	—	duhuŋ
PA		*daga?	*cəka?	*kadaŋ	*pila?	*ruŋay	*bural	*luhuŋ

		moss	mouse	mouth	mud	mulberry	mumps	mushroom
Ata	Sq		qoli?	n-qwaq	slaq	tlui?, tliu?	pupuk	qihuŋ
	Ms		qawlit	ŋa-?uwa?	sala?	—	pupuk	?uhuŋ
	Sk	(yumu-riq)	qoli?	n-qwaq	claq	tlui?	pupuk	—
	Mx	—	qawlit	ŋa-quwaq	claq	—	ma-pupuk	qhuŋ
	Pl	r̄imu-ri?	?olic	ŋa-'wa?	—	—	pupuk	—
Sed	Tn	dmu-riq	qolic	quwaq	—	(tdiyuc)	pupuk	—
	Td	dmu-riq	qolic	quwaq	cəlaq	(tliyuq)	pupuk	—
	Tr		?olic	?uwa?	səla?	(kliyuc)	—	—
	In	dmu-riq	qawlic	quwaq	səlaq	(kliyuc)	pupuk	—
PA		*dimu-riq	*qawlid	*ŋa-quwaq	*cəlaq	*taliud	*pupuk	*qəhuŋ

		narrow	navel	near	neck, back of	necklace, string	needle
Ata	Sq	gzil	puga?	—	griyuŋ	sniyuw	rom
	Ms	yagazil	—	—	wariyuŋ	(samiyuw)	raum
	Sk	—	puga?	—	griyuŋ	sniyux	rom
	Mx	—	puga?	—	wariyuŋ	siniyug	raum/ragum
	Pl	r̄igiril	—	—	wariŋ	sinyuw	r̄oŋ
Sed	Tn	(dge-hiŋ)	puga?	(daliŋ)	(nduyuŋ)	sniruw	—
	Td	duuril	puwa?	dalih	—	sniru?	—
	Tr	dgəril	puga?	dalih	gduyuŋ	snirug	—
	In	dgəril	puga?	dalih	duyuŋ	(silug)	—
PA		*digəril	*puga?	*dalih	*gadiyuŋ	*sinirug	*dagum

		nit	*nod head*	*noisy*	*not*	*not exist*	
Ata	Sq	(ʔiquʔ)	t-m-atuk	s-m-tunux	ʔiniʔ	ʔuŋat	—
	Ms	(giquʔ)	t-m-atuk	—	ʔiniʔ	ʔuŋat	—
	Sk	(giguʔ)	t-m-atuk	s-m-tunux	ʔiniʔ	—	ʔukaʔ
	Mx	ʔa-ʔiqus/ga-giqus	t-um-atuk	s-m-ta-tunux	ʔiniʔ	—	(ʔukas)
	Pl	ga-giʔus	—	s-un-ta-tunux	ʔiniʔ	ʔuŋac	—
Sed	Tn	geyus	p-tatuk	s-n-t-tunux	ʔiniʔ	—	ʔukaʔ
	Td	wiyus	p-tatuk	s-n-tunux	ʔiniʔ	—	ʔukaʔ
	Tr	giyus	p-tatuk	s-n-tunux	ʔiniʔ	ʔuŋac	—
	In	giyus	t-m-atuk	s-tunux	ʔiniʔ	ʔuŋac	—
PA		*giqus	*tatuk	*s-m-tunux	*ʔiniʔ	*ʔuŋat	*ʔukaʔ

		old (thing)	*open*	*outside*	*owl*	*pail, box*
Ata	Sq	smural	(g-m-eh)	ta-nux	ŋuziq	kuluʔ
	Ms	—	(g-m-iyah)	ta-nux	—	kuluʔ
	Sk	smural	g-m-awah	ta-nux	—	kuluʔ
	Mx	—	g-um-awah	lata-nux/lataʔ	—	kuluʔ
	Pl	—	g-um-awah	ta-nux	—	kuluʔ
Sed	Tn	—	r-m-awah		ŋuriq	kuluʔ
	Td	smudal	r-m-awah		ŋuriq	kuluʔ
	Tr	smudal	r-m-awah		—	kuluʔ
	In	smudal	r-m-awah		—	kuluʔ
PA		*smudal	*g-um-awah	*latad	*ŋuriq	*kuluʔ

		pan	*patch*	*peck*	*penis*	*pestle*	*pig*	*pineapple*
Ata	Sq	supih	(t-m-apaŋ)	m-atuk	ʔutas	qsizuʔ	—	—
	Ms	supih		ʔ-m-atuk	—	ʔsuyuʔ	—	paŋran
	Sk	supih	(t-m-apaŋ)	g-m-atuk	—	qsuyuʔ	—	pŋran
	Mx	—	c-um-paŋ	ʔ-um-atuk	—	qasuuʔ	—	paŋran
	Pl	—	c-um-paŋ	—	—	ʔasuʔ	—	—
Sed	Tn	supih	c-m-apaŋ	g-m-atuk	—	seruʔ	babuy	—
	Td	—	c-m-apaŋ	u-m-atuk	—	səruʔ	babuy	—
	Tr	supih	s-m-apaŋ	g-m-atuk	ʔutas	səruʔ	babuy	—
	In	supih	s-m-apaŋ	g-m-atuk	ʔutas	səruʔ	babuy	—
PA		*supih	*c-um-apaŋ	*ʔ-um-atuk/ *g-um-atuk	*ʔutas	*qasəruʔ	*babuy	*paŋdan

			pine tree	*pitiful*	*point at*	*poor, lonely*	*pork*	*pot*
Ata		Sq	hayuŋ	s-galuʔ	pin-turiŋ	—	syam	—
		Ms	—	—	pan-turiŋ	ʔazinut	siyam	—
		Sk	—	s-galuʔ	pin-turiŋ	qayinuc	syam	limuk
		Mx	hayriŋ/hawuŋ	si-guʔaluʔ	pana-turiŋ/ pana-turuq	qainut 孤獨者	siyam	limuk
		Pl	—	—	pan-turiŋ	ʔarinuc	syaŋ	—
Sed		Tn	haruŋ	glu-un	—	m-qrinuc	siyaŋ	—
		Td	haruŋ	p-waluʔ	—	m-qrinuc	siyaŋ	limuk
		Tr	haruŋ	p-gəaluʔ	—	m-ʔrinuc	siyaŋ	limuk
		In	haruŋ	p-galuʔ	—	m-qrinuc	siyaŋ	—
PA			*haruŋ	*gəʔaluʔ	*tudiŋ/ *tuduq	*qarinut	*siyam	*limuk

			sweet potato	*pretty*	*priest-shaman*	*pus*	*ragged*	*rattan*
Ata		Sq	ŋa-hiʔ	—	mhoniʔ	—	m-s-galiq	qo-yux
		Ms	ŋa-hiʔ	baytu-nux	nahawniʔ	—	ma-galiʔ	ʔawa-niʔ
		Sk	ŋa-hiʔ	betu-nux	mhoniʔ	—	m-galiq	qwa-niʔ
		Mx	buŋaʔ	mag-batu-nux	ma-ha-huniʔ	—	ma-galiq	quwa-niʔ
		Pl	ŋa-hiʔ	—	mahuniʔ	—	ma-galiʔ	ʔwa-rux
Sed		Tn	buŋaʔ	m-btu-nux	mhuniʔ	nalaq	m-s-galiq	qwa-rux
		Td	buŋaʔ	m-btu-nux	mhuniʔ	nalaq	m-waliq	qwa-rux
		Tr	buŋaʔ	m-btu-nux	mhuniʔ	nalaʔ	—	ʔwa-rux
		In	buŋaʔ	m-btu-nux	muhuniʔ	nalaq	—	qwa-rux
PA			*buŋaʔ	*baytu-nux	*ma-hawniʔ	*nalaq	*ma-galiq	*quway

			raw	*red*	*return*	*rice, husked*	*rice plant*
Ata		Sq	m-t-el-uq	m-talah	m-zi-nah	buwax	(pagay)
		Ms	ma-ta-il-uʔ	ma-tanah	p-bazi-nah	buwax	(pagay)
		Sk	m-t-el-uq	m-talah	m-bi-nah <m-byi-nah	buwax	(pagay)
		Mx	mat-il-uq/mataq	ma-tanah	ma-bwi-nah	buwax	—
		Pl	ma-teluʔ	ma-tanah	mu-bwi-nah	box	(pagiy)
Sed		Tn	meluq	tanah	m-ri-nah	(beras)	paye
		Td	meluq	m-banah	m-bri-nah	buwax	payay
		Tr	məiluʔ	m-banah	m-bri-nah	buwax	payay
		In	miiluq	m-banah	m-bri-nah	buwax	payay
PA			*matiluq/*mataq		*ma-bəri-nah	*buwax	*pagʼay

		right (correct)	road	road, animal trail	to warm, roast	roof
Ata	Sq	balay	—	tuqiy 路	malah	ramuw
	Ms	s-balay	—	tuʔiy	malah	ramuʔiy
	Sk	c-balay	ryan-iq	tuqiy 獸跡	malah	ramux
	Mx	cu-balay	ran-iq/raan	tuqiy 獸跡	malah	r-in-amug
	Pl	(cubay)	—	tuwiy 路	malah	r̄amu'iy
Sed	Tn	p-t-bale	—	tuqir 獸跡	malah	dnamux
	Td	p-t-balay	—	tuqar	malah	dnamux
	Tr	p-t-balay	—	tuʔir	malah	dnamux
	In	balay		tuqir	malah	damux
PA		*balay	*daran-iq/	*tuqir	*malah	
			*daran	*tuqig		

		root	saliva	salt	same	sand	scrub, shave
Ata	Sq	gamil	halus	cimuʔ	m-tnaq	bnaqiy	k-m-ugus
	Ms	gamil	—	timuʔ	ma-tanaʔ	banaʔiy	k-m-ugus
	Sk	gamil	—	cimuʔ	m-tnaq	bnaqiy	k-m-ugus
	Mx	gamil	—	timuʔ	—	bunaqiy	k-um-ugus
	Pl	gamil	—	timuʔ	min-tanaʔ	buna'iy	—
Sed	Tn	gamil	(hlulas)	timuʔ	mn-tenaʔ	bnaquy	k-m-ugus
	Td	wamil	halus	timuʔ	mn-tənaʔ	bnaqiʔ	k-m-uus
	Tr	gamil	halus	cimuʔ	mn-tənaʔ	bnaʔig	k-m-ugus
	In	gamil	halus	cimuʔ	mn-tənaʔ	bnaqig	k-mugus
PA		*gamil	*halus	*timuʔ	*ma-tənaq	*bunaqig	*k-um-ugus

		scythe	sea, lake	see	seed	seven
Ata	Sq	sokiʔ	siluŋ	m-itaʔ (kitaʔ)	ghap	pituʔ
	Ms	sawkiʔ	b-asiluŋ	k-um-itaʔ (kitaʔ)	ga-gahap	ma-pituʔ
	Sk	sokiʔ	b-ciluŋ	kta-yux	ghap	m-pituʔ
	Mx	sawkiʔ	wa-ciluŋ	k-um-ita-al (kitaal)	ga-ghap	ma-pituʔ
	Pl	—	wa-ciluŋ	—	—	ma-pituʔ
Sed	Tn	—	r-ciluŋ	m-itaʔ (qitaʔ)	(rehak)	m-pituʔ
	Td	sokiʔ	u-ciluŋ	q-m-itaʔ (qitaʔ)	(rəhak)	m-pituʔ
	Tr	sokiʔ	g-siluŋ	ʔ-m-itaʔ	gəhak	m-pituʔ
	In	sokiʔ	g-siluŋ	q-m-itaʔ (qitaʔ)	gəhak	m-pituʔ
PA		*sawkiʔ	*-ciluŋ	*kitaʔ	*gəhap	*ma-pituʔ

		sew	*shade*	*sheep*	*shoot*	*shoulder*	*shrimp*
Ata	Sq	s-m-aqis	sasaw	mit	—	qhiyaŋ	boluŋ
	Ms	s-m-aʔis	sasiʔ	mit	s-m-abuʔ		bawluŋ
	Sk	c-m-aqis	c-sasaw 乘涼	miic	—	qhiyaŋ	(moluŋ)
	Mx	c-um-aʔiŋ/	sasiq/sasaw	mit	c-um-buʔ	—	—
		c-um-aqis					
	Pl	c-um-a'is	sasiʔ	mic	c-um-buʔ		ba-buluŋ
Sed	Tn	(s-m-ais)	saso	miric	c-m-ebuʔ	—	boluŋ
	Td	(s-m-ais)	sasaw	miric	c-m-əbuʔ	hiraŋ	boluŋ
	Tr	s-m-ais	sasaw	miric	s-m-əbuʔ	hiraŋ	boluŋ
	In	s-m-aʔis	saˢag	miric	s-əm-buʔ	hiraŋ	k-boluŋ
PA		*c-um-aqis	*sasaw	*mirit	*c-um-əbuʔ	*qəhiraŋ	*bawluŋ

		shuttle	*elder sibling*	*younger sibling*	*side*	*side dish*
Ata	Sq	ʔikus	qsuyan	s-sueʔ	siyaw	ramat
	Ms	—	baʔasuyan	suwaiʔ	siyaw	ramat
	Sk	ʔikus	qsuyan	—	siyax	ramac
	Mx	gikus	(q-um-isuwan)	suwaiʔ	siyag	ramat
	Pl	gikus	ʔasuran	suseʔ	syaw	ra-ramac
Sed	Tn	gikus	qbsuran	swaiʔ	siyo	damac
	Td	wikus	qbsuran	swaiʔ	siyaw	damac
	Tr	gikus	ʔbsuran	swaiʔ	siyaw	damac
	In	gikus	qbsuran	swaiʔ	siyag	damac
PA		*gikus	*qəbəsuran	*suwaiʔ	*siyag	*damat

		sifter	*six*	*skin disease* 頭皮屑	*slow*	*small*	*smell*
Ata	Sq	gilan	tizuʔ	pulas	thguway	cipuq	s-m-ok
	Ms	gargilan	ma-tayuʔ	pulas	ma-kinhuway	—	s-am-auk
	Sk	rglan	m-tuyuʔ	pulas	knhuway	cipaq	s-m-ok
	Mx	giragiran	ma-matuuʔ	ma-pulas	—	—	s-um-auk
	Pl	gilgilan	matuʔ	—	—	—	s-uŋ-k-a-nux
Sed	Tn	rgrigan	m-m-teruʔ	—	tghuwe	—	s-m-k-e-nux
	Td	ruriwan	m-təruʔ	pulas	m-thuway	cipiq	s-m-k-ə-nux
	Tr	gigan	m-təruʔ	—	m-tghuway	cipiʔ	s-m-k-ə-nux
	In	gigan	toruʔ	—	m-thuway	—	p-sk-ə-nux
PA			*ma-təruʔ	*pulas		*cipəq	*s-um-auk

		soft	sole (of foot)	son-in-law	sow, cf. seed	spear	spine
Ata	Sq	m-hnuk	rapal	y-amaʔ	m-hap	—	qniʔ turuʔ
	Ms	m-hnuk	rapal	y-amaʔ	g-m-hap	sbyaŋan	turuʔ
	Sk	m-hnuk	rapal 足跡	y-amaʔ	g-m-hap	—	qniʔ turuʔ
	Mx	ma-hnuk	rapal 踏脚陷阱	y-amaʔ	g-um-hap	s-in-bwaŋan	—
	Pl	ma-hnuk	rapal	y-amaʔ	—	—	turuʔ
Sed	Tn	m-henuk	(dapil)	ʔamaʔ	r-m-ehak	s-n-braŋan	tuduʔ
	Td	m-hənuk	(dapil)	ʔamaʔ	r-m-əhák	s-n-braŋan	tuduʔ
	Tr	m-hənuk	(dapil)	ʔamaʔ	g-m-əhak	s-n-braŋan	tuduʔ
	In	m-hənuk	(dapil)	ʔamaʔ	g-m-əhak	s-m-braŋan	tuduʔ
PA		*ma-hənuk	*dapal	*ʔamaʔ	*g-um-əhap	*sbraŋan	*tuduʔ

		spittle	spit	spoon, scoop	spread a mat	sprout	flying squirrel
Ata	Sq	tuyuq	p-tuyuq	takuʔ	s-m-amaw	taŋuw	yapit
	Ms		(t-m-zunaʔ)	takuʔ	s-m-amaw	—	yapit
	Sk	(yunaq)	(ti-yunaq)	takuʔ	s-m-amaw	taŋux	yapic
	Mx	(tunaq)	(pu-tunaq)	t-um-akuʔ	s-um-amag	—	ʔapit
	Pl	(tarunaʔ)	(pa-tarunaʔ)	—	s-um-amaw	taŋuw	rapic
Sed	Tn	turuq	m-turuq	takuʔ	s-m-apo	—	rapic
	Td	(tuyuq)	(t-m-uyuq)	takuʔ	s-m-apaw	—	rapic
	Tr	(tuyuʔ)	(t-m-uyuʔ)	takuʔ	s-m-apaw	taŋug	rapic
	In	(tuyuq)	(t-m-uyuq)	takuʔ	s-m-apag	taŋug	rapic
PA		*turuq	*-turuq	*takuʔ		*taŋug	*rapit

		squirrel	stab	stick, pole	sticky	stink	stomach
Ata	Sq	bhut	—	hokuʔ	t-rŋil	sknux	—
	Ms	bahut	maytaʔ	hawkuʔ	—	—	la-lahabun 心臟
	Sk	bhuc	—	hokuʔ	m-rŋil	skunux	lhbun 胃
	Mx	bhut	—	hawkuʔ	—	—	la-lihbun 努
	Pl	buhuc	metaʔ	hukuʔ	mu-řaŋil	sakanux	lahbun 胃
Sed	Tn	b-ri-huc	metaq	hukuc	(m-deŋul)	skenux	lhebun 橫隔膜
	Td	b-ri-huc	metaq	hukuc	m-dəŋil	skənux	lhəbun 橫隔膜
	Tr	b-ri-huc	metaʔ	hukuc	m-dəŋil	skənux	lhəbun 橫隔膜
	In	b-ri-huc	metaq	hukuc	m-dəŋil	skənux	lhəbun 胃(痛)
PA		*buhut	*maytaq	*hawkuc(?)	*dəŋil	*səkənux	*lihəbun

		stone	*straps, belt*	*stupid*	*summer*	*sun*
Ata	Sq	btu-nux	habuk	—	bagan	wagiʔ
	Ms	—	habuk	—	ʔabagan	(wawi-tux)
	Sk	btu-nux	habuk	m-ŋaŋah	gbagan	wagiʔ
	Mx	batu-nux	ha-habuk	—	gabagan	wagiʔ
	Pl	batu-nux	habuk	m-ŋaŋah	ʔabagan	wagiʔ
Sed	Tn	btu-nux	(habik)	m-ŋaŋah	rbagan	—
	Td	btu-nux	habuk	m-ŋaŋah	rbawan	—
	Tr	btu-nux	habuk	m-ŋaŋah	rbagan	—
	In	btu-nux	habuk	m-ŋaŋah	rbagan	—
PA		*batu-nux	*habuk	*ma-ŋaŋah	*-bagan	*wagiʔ

		swim, bathe	*tabu*	*tail*	*take care*
Ata	Sq	mŋi-aq	(msan-iq)	ŋuŋuʔ	k-m-ahaŋ (kahaŋ)
	Ms	ma-laŋi-aʔ	pasan-iʔ	—	m-lahaŋ (kalhaŋ-an)
	Sk	l-m-ŋi-aq	psan-iq	ŋuŋuʔ	m-lahaŋ (khlaŋ-i)
	Mx	l-um-aŋuy	pisan-iq/paisan	(ŋaʔŋuʔ)	ma-lahaŋ (kalhaŋ-an)
	Pl	l-um-aŋuy	pisan-iʔ	ŋuŋuʔ	ma-lahaŋ (klahŋ-an) 'seek'
Sed	Tn	l-m-aŋuy	bsan-iq	ŋuŋuʔ	q-m-lahaŋ
	Td	l-m-aŋuy	bsan-iq	ŋuŋuʔ	q-m-lahaŋ
	Tr	l-m-aŋuy	psan-iʔ	ŋuŋuʔ	ʔ-m-lahaŋ
	In	l-m-aŋuy	bsan-iq	ŋuŋuʔ	q-m-lahaŋ
PA		*l-um-aŋuy	*pisan-iq/paisan	*ŋuŋuʔ	*kalahaŋ
			*baisan		

		taro	*taste*	*tears*	*thing*	*hang down*	*think*
Ata	Sq	se-huy	t-m-alam	—	qayaʔ	s-p-qayaʔ	m-ŋluŋ
	Ms	say-huy	t-m-alam	—	ʔay-ʔayaʔ	—	l-m-ŋaluŋ
	Sk	ce-huy	t-m-alam	—	q-qayaʔ	—	m-ŋluŋ
	Mx	caiʔ	t-um-alam	—	—	—	l-um-aŋluŋ
	Pl	ce-hur	t-um-alaŋ	—	ya'ayaʔ	pa-'ayaʔ	luŋluŋ
Sed	Tn	(sariʔ)	t-m-alaŋ	rusuq	(qyu-qeyaʔ)	q-m-eyaʔ	lmŋeluŋ
	Td	(sariʔ)	t-m-alaŋ	rusuq	q-qiyaʔ	m-qiyaʔ	lmŋaluŋ
	Tr	sariʔ	t-m-alaŋ	rusuʔ	ʔ-ʔayaʔ	m-ʔayaʔ	lmŋaluŋ
	In	sariʔ	t-m-alaŋ	rusuq	qayaʔ	m-qayaʔ	lmŋaluŋ
PA		*cariʔ	*t-um-alam	*rusuq	*qəyaʔ	*pa-qəyaʔ	*l-um-aŋəluŋ

		this	thread	thread a needle	three	tongue
Ata	Sq	qa-ni	wayay	m-uhuw	ciw-al	hma-liʔ
	Ms	ha-ni	wayay	l-m-uhuw	ciw-gal	hma-liʔ
	Sk	ha-ni	wayay	l-m-uhux	tyu-gal	hama-ʔuy
	Mx	ha-ni	wa'ay	l-um-hug	tu-gal/tuuʔ	hmaʔ
	Pl	ha-ni	wariy	l-um-uhuw	tu-gal	hama-lic
Sed	Tn	nii	ware	l-m-ihuw	teruʔ	hemaʔ
	Td	ni	waray	l-m-ihuʔ	təruʔ	həmaʔ
	Tr	ni	waray	l-m-ihug	təruʔ	həmaʔ
	In	nii	waray	l-um-ihug	toruʔ	həmaʔ
PA		*ni	*waray	*l-um-uhug	*təruʔ	*həmaʔ
				*l-um-ihug		

		tooth	trap	tree	twenty	two	umbrella, cap
Ata	Sq	ʔ-nux	raŋay	qho-niq	pusal	—	cyasiʔ 斗笠
	Ms	gaʔa-nux	raŋay	kahaw-niʔ	ma-pusal	—	(cyasiʔ)
	Sk	pn-iq	raŋay	qhu-niq	pusal	—	(tyasiʔ)
	Mx	giʔ-nux/gipun	raŋa	kahu-niq/kahuy	ma-pusal	rusaʔ	taasiʔ
	Pl	ʔap-nux	—	kahu-niʔ	ma-pusal	—	tarasiʔ
Sed	Tn	rupun	—	qhu-niʔ	m-pusal	dahaʔ	trasiʔ
	Td	rupun	daŋar	qhu-niʔ	m-pusal	dahaʔ	trasiʔ
	Tr	gupun	daŋar	ʔhu-niʔ	m-pusal	dahaʔ	trasiʔ
	In	gupun	daŋar	qhu-niʔ	m-pusal	dahaʔ	tarasiʔ
PA		*gipun	*daŋar	*kahu-niq/kahuy	*ma-pusal	*dusaʔ	*tarasiʔ

		vein, sinew	village	viscera, heart	vomit	vulva	waist	wait
Ata	Sq	(ʔugiq)	qalaŋ	qsahuy	mutaq	pipiʔ	hginuk	m-nagaʔ
	Ms	(ʔugil)	ʔalaŋ	ʔasahuy	mutaʔ	pipiʔ	hawinuk	m-nagaʔ
	Sk	(ʔugiq)	qalaŋ	—	mutaq	pipiʔ	hinuk	m-naʔ
	Mx	(ʔuwiq)	qalaŋ	qacahuw	mutaq	—	hawinuk	n-um-agaʔ
	Pl	(ʔugil)	ʔalaŋ	ʔacahur	mutaʔ	pipiʔ	hawinuk	ma-naʔ
Sed	Tn	ʔurac	ʔalaŋ	qcahur	mutaq	pipiʔ	hwinuk	t-m-araʔ
	Td	ʔurac	ʔalaŋ	qcahur	—	pipiʔ	hwinuk	t-m-awaʔ
	Tr	ʔurac	ʔalaŋ	ʔsahur	—	pipiʔ	hginuk	t-m-agaʔ
	In	ʔurac	ʔalaŋ	qsahur	—	pipiʔ	hginuk	t-m-agaʔ
PA		*ʔugac	*qalaŋ	*qacahur	*mutaq	*pipiʔ	*haginuk	*t-um-agaʔ
							*hawinuk	

		wash (clothes)	water	waterfall	we (exc.)	we (incl.)	weave	to weed
Ata	Sq	mahuq	qsiyaʔ	—	s-ami	ʔitaʔ	t-m-inun	m-qumah
	Ms	mahuʔ	ʔasiyaʔ	—	s-ami	ʔitaʔ	t-m-inun	ma-ʔumah
	Sk	mahuq	qsiyaʔ	tgliq, tglas	s-ami	ʔitaʔ	t-m-inun	m-q̇umah
	Mx	ma-bahuq	qusiyaʔ	tagliq	c-ami	ʔitaʔ	t-um-inuq/ t-um-inun	—
	Pl	ma-bahuʔ	ʔuseʔ	tagliʔ	c-ami	ʔitaʔ	t-um-inuʔ	
Sed	Tn	mahuʔ	qsiyaʔ	tgelaq	y-ami	ʔitaʔ	t-m-inun	
	Td	mahuʔ	qsiyaʔ	tuulaq	y-ami	ʔitaʔ	t-m-inun	
	Tr	mahuʔ	ʔsiyaʔ	tgəlaʔ	y-ami	ʔitaʔ	t-m-inun	
	In	mahuʔ	qsiyaʔ	tgəlaq	y-ami	ʔitaʔ	t-m-inun	
PA		*ma-bahuq	*qusiyaʔ	*tagəliq	*-ami	*ʔitaʔ	*t-um-inun	*ma-qumah

		weep	wet	what	when	where	who
Ata	Sq	m-ŋilis	m-huziq	nanuʔ	knwan	ʔinuʔ	ʔimaʔ
	Ms	ma-ŋilis	ma-huziʔ	nanuʔ	knuwan	ʔinuʔ	ʔimaʔ
	Sk	m-liŋis	m-huyiq	nanuʔ	knwan	ʔinuʔ	ʔimaʔ
	Mx	mi-ŋilis	ma-huwiq	nanu-wan	kanuwan	ʔinuʔ	ʔimaʔ
	Pl	ma-ŋilis	ma-huriʔ	—	kanwan	ʔinuʔ	ʔimaʔ
Sed	Tn	l-m-iŋis	m-huriq	manuʔ	knuwan	ʔinuʔ	ʔimaʔ
	Td	l-m-iŋis	m-huriq	manuʔ	knuwan	ʔinuʔ	ʔimaʔ
	Tr	l-m-iŋis	m-huriʔ	manuʔ	knuwan	ʔinuʔ	ʔimaʔ
	In	l-m-iŋis	m-huriq	manuʔ	knuwan	ʔinuʔ	ʔimaʔ
PA		*ŋilis *liŋis	*ma-huriq	*manuʔ	*kanuwan	*ʔinuʔ	*ʔimaʔ

		wide	wing	winnow	winter	worm	wrap
Ata	Sq	labaŋ	paliʔ	t-m-abus	qmis-an	kuiʔ	s-m-abuʔ
	Ms	galabaŋ	—	t-am-apus	ʔamis-an	kuiʔ	—
	Sk	glabaŋ	paliʔ	t-m-apus	qmis-an	kuiʔ	c-m-abuʔ
	Mx	ʔilahaŋ/gilahaŋ	paliʔ	t-um-apus	qamis-an	kuiʔ	c-um-abuʔ
	Pl	r̄ahalaŋ	—	t-um-apis	—	kuy-aʔ	c-um-abuʔ
Sed	Tn	glahaŋ	palic	t-m-abus	mis-an	kuiʔ	l-m-abuʔ
	Td	llabaŋ	palic	t-m-abus	mis-an	kuiʔ	l-m-abuʔ
	Tr	llabaŋ	palic	t-m-abus	mis-an	kuiʔ	l-m-abuʔ
	In	llabaŋ	palic	t-m-bus	mis-an	kuiʔ	l-m-abuʔ
PA			*palid	*t-um-apəs *t-um-abus	*qamis-an	*kuiʔ	*c-um-abuʔ

		write, tattoo	wrong	yawn
Ata	Sq	matas	—	m-suyap
	Ms	matas	—	?am-suyap
	Sk	matas	m-nuqu?	m-suyap
	Mx	matiq/matas	—	ma-suwag
	Pl	matas	—	ma-surak
Sed	Tn	matis[28]	qnuuqu?	m-suwak
	Td	matas	m-qnuqu?	m-surak
	Tr	matas	ma-?anu?uu?	m-surak
	In	matas	m-qnuqu?	m-surak
PA		*matas	*ma-qanuqu?	*ma-surab
				*ma-suwab

		year	yesterday	you (sg.)	you (pl.)
Ata	Sq	kawas	hira?	?isu?	simu
	Ms	—	su-hisa?	?isu?	simu
	Sk	kawas	c-hisa?	?isu?	simu
	Mx	—	cu-hisa?	?isu?	?icimu
	Pl	—	hira?	?isu?	cimu
Sed	Tn	kawas	ciga?	?isu?	yamu
	Td	kŋ-kawas	c-hiwa?	?isu?	yamu
	Tr	kawas	s-higa?	?isu?	yamu
	In	kawas	siga?	?isu?	yamu
PA		*kawas	*cu-hig'a?	*?isu?	*cimu
					*yamu

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28. The second vowel has irregularly dissimilated to /i/ in the neutral form, also in *patis* 'paper,' but retained as /a/ in the imperative form *ptas-i* 'Write!' in Toŋan.

Appendix II. Atayalic Dialects Included in This Study

	Abbreviations	Dialects	Location
	1. Sq	Squliq	桃園縣復興鄉澤仁村
	2. Ms	Maspaziʔ	新竹縣五峯鄉大隘村
	3. Sk	Skikun	宜蘭縣大同鄉四季村
	4. Mn	Mnawyan	宜蘭縣大同鄉樂水村碼崙
	5. Mx	Mayrinax	苗栗縣泰安鄉錦水村汶水
	6. Mb	Mabatuʔan	苗栗縣泰安鄉清安村洗水坑
	7. Mt	Matabalay	苗栗縣泰安鄉大興村
	8. Sx	Sakuxan	苗栗縣泰安鄉中興村
	9. Pl	Palŋawan	南投縣仁愛鄉親愛村萬大
	10. Tn	Toŋan	南投縣仁愛鄉南豐村湄溪
	11. Td	Toda	南投縣仁愛鄉春陽村
	12. Tr	Truwan	南投縣仁愛鄉合作村平生（靜觀）
	13. In	Inago	南投縣仁愛鄉親愛村松林

(Tree structure at left: Atayal branch groups dialects 1–9, with Sq grouping 1–2, Cʔuliʔ grouping 3–9; Sediq branch groups dialects 10–13.)

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古泰雅語音韻的擬測

（摘　要）

李　壬　癸

　　泰雅語羣包括泰雅語與賽德語，各有不少的方言。泰雅語又分兩支：賽考利克亞族與澤敖利亞族。因爲賽考利克各方言都相當一致，而澤敖利各方言彼此差別頗大，所以本研究報告只以一種賽考利克方言（澤仁村）爲代表，以數種澤敖利方言：大隘村、四季村、錦水村汶水、大興村、親愛村萬大爲代表。賽德語是以南豐村、春陽村、合作村與親愛村松林等四種方言爲代表。以上各種方言的資料，作者都親自到田野去調查，大部分的方言都去調查過兩次以上。所記錄的每一種方言資料，包括詞彙約一千以及一些動詞的變化，部分方言收有長篇的語料。

　　本文分三大節。第一節概論介紹泰雅語羣，以前對泰雅語羣音韻的研究，各方言的音韻系統、語音描述、語言分佈、詞音位轉換，並且略述汶水方言男女語言形式的不同及其對於古語研究所提供的重要線索（作者已發表一文 Li 1980b 專門討論這一問題）。第二節是古泰雅語音韻的擬測，其系統如下：

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p  t    k  q  ʔ                          i        u
b  d  g′ g                                    ə
      c
      s  x    h                                    a
m  n    ŋ                                 ay, aw, uy
   l  r
w    y
```

第三節討論從古南島語到古泰雅語再到現代方言的演變。泰雅語羣的語音演變大致有共同的趨勢與方向。文後有兩個附錄：附錄一是泰雅語羣的同源字表，附錄二是泰雅

語羣各方言的分類及地理位置表。

　　擬測古泰雅語最困難的地方就是語尾濁塞音。作者另有專文（Li 1981）討論，採用了外部擬測（比較研究）與內部擬測，兩種方法交互運用，證明古泰雅語有四個語尾的濁塞音。本文只略述外部擬測的結果。

　　不同年齡的語言形式常有所不同，語音與音韻系統也有些差異。泰雅語羣的每一種方言都有這種現象。這種年齡上的差異，表現在語言形式與系統上的不同，是語言演變的主要成因之一。作者另有一文（Li, forthcoming）專門討論泰雅語羣不同年齡在語言形式上的差異。本文所列舉的各種方言資料大都根據老年人的發音。

　　泰雅語羣當中，以汶水方言保存最多的古語現象，而賽考利克方言演變得最厲害。不同方言常保存不同的古語現象。本報告所研究的資料已包括泰雅語羣所有重要的方言。