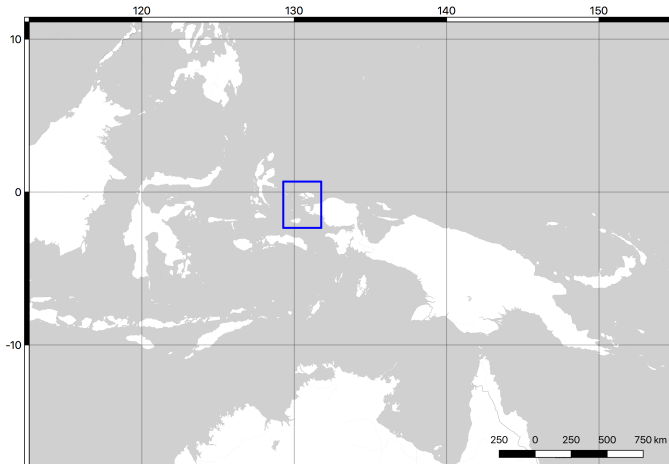


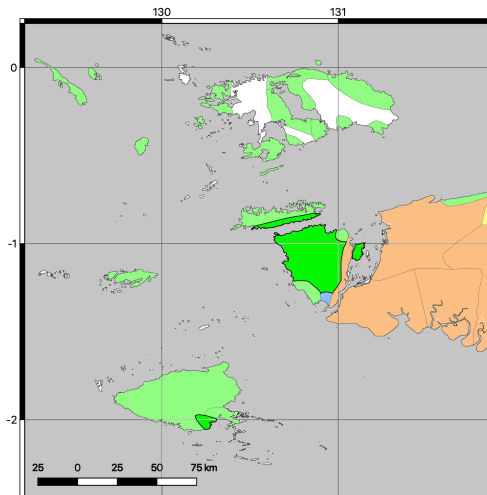
The tonal phonologies of three undocumented Raja Ampat languages

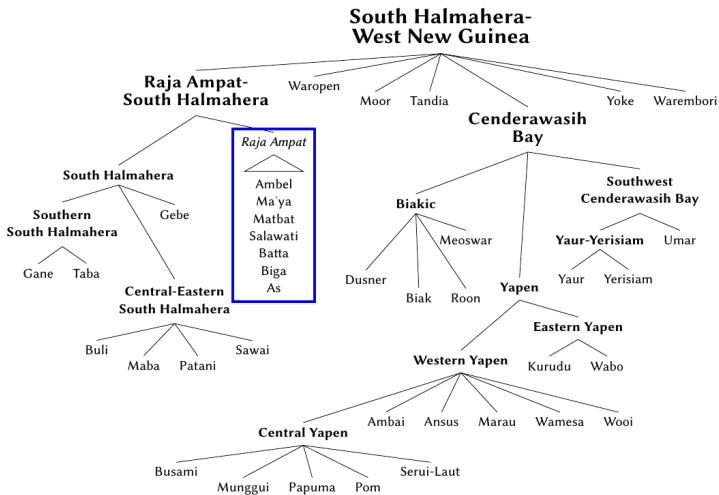
Laura Arnold
University of Edinburgh

15-ICAL, 30 June 2021

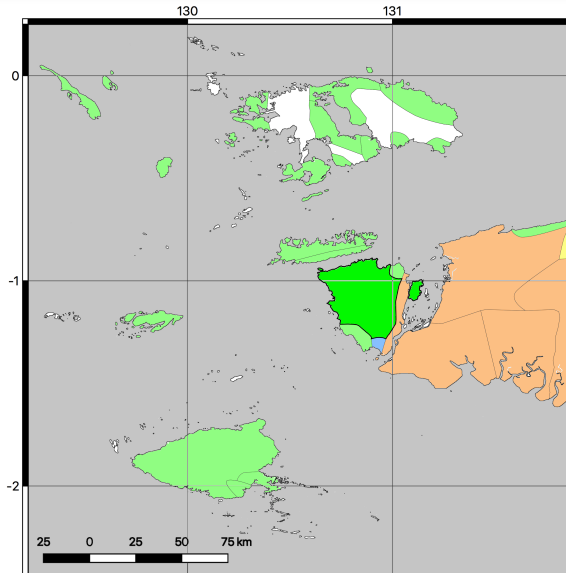




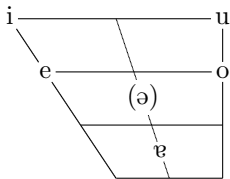




After Kamholz (2014)

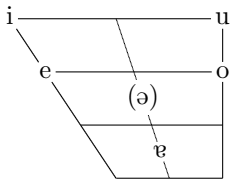


	labial	alveolar	palatal	velar	labial- velar	glottal
stops	p b	t d		k (g)		
fricatives	f	s				h
nasals	m	n		(ŋ)		
liquids		l r				
glides			j		w	



- ▶ /f/ → [f] ~ [ɸ]
- ▶ /w/ → [β] / V ___ V
- ▶ /k/ → [ʔ] / ___ #

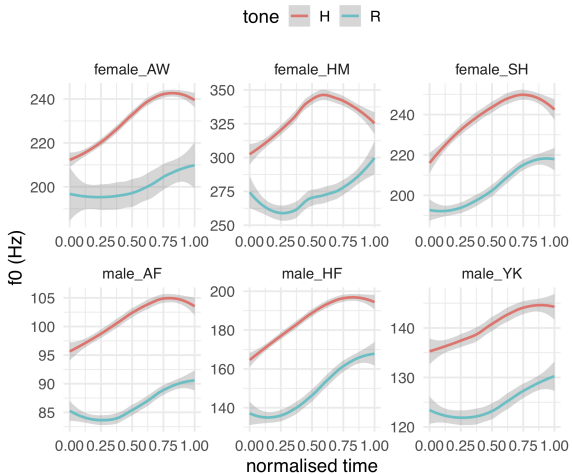
	labial	alveolar	palatal	velar	labial- velar	glottal
stops	p b	t d		k (g)		
fricatives	f	s				h
nasals	m	n		(ŋ)		
liquids		l r				
glides			j		w	



- ▶ CjVC / CIVC
- ▶ Plus: /mnjét/ 'cloud',
/mnját/ 'die.1sg'

(1) Tonal (near-)minimal pairs

High		Rise		Toneless	
jám	▶▶	‘eagle’	jǎm	▶▶	‘needle’
kít	▶▶	‘octopus’	nǎ	▶▶	‘sky’
				ket	▶▶ ‘short’
				na	▶▶ ‘belly.3sc’



Credit: Jiayin Gao

Butlih Salawati

► Polysyllables (dominant pattern):

Final syllables

- Tone specification
- Longer duration
- Greater intensity
- 5 contrasting vowels

Non-final syllables

- No tone specification
- Shorter duration
- Lower intensity
- Collapse of vowel contrast

Butlih Salawati

► Polysyllables (dominant pattern):

/wVnóm/	[wənóm] ~ [wonóm]	‘six’
/wVlút/	[wəlút] ~ [wulút]	‘sea’
/wVlí/	[wəlí] ~ [wilí]	‘tooth’
/Vtém/	[ətém] ~ [etém]	‘one’
/tVkú/	[təkú] ~ [tukú]	‘chicken’
/Vwa/	[əwa] ~ [awa]	‘root’
/mVsǝn/	[məsǝn] ~ [mosǝn]	‘heavy’

Butlih Salawati

► Polysyllables (dominant pattern):

- Underlying V: [mɲjét] ‘cloud’ vs. [mənjét] ~ [mɛnjét] ‘empty’
- Specified vowel:

[wildów] (*[wəldów]) ‘rattan’
 [binhláj] (*[bɛnhláj]) ‘sandfly’
 [binsár] (*[bɛnsár]) ‘wife’

[lahán] (*[lɛhán]) ‘day’
 [pompón] (*[pɛmpón]) ‘food’
 [kofənjí] (*[kɛfənjí]) ‘bat’

Butlih Salawati

► Exceptional polysyllables:



► Tone on non-final syllable



/nǎ-lo/ 'sky'

/ǎj-lo/ 'forest'

/wěj-lo/ 'river'

► Stress on non-final syllable?

[ə'lé]  'cave' vs. ['awé]  'child'

[mə'njät]  'empty' vs. ['maněŋ]  'mother'

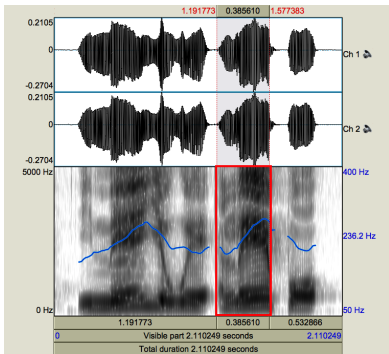


Figure 1: [ə'lé] 'cave'

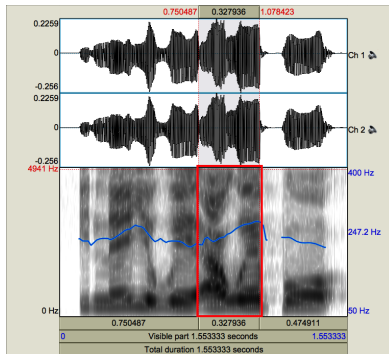
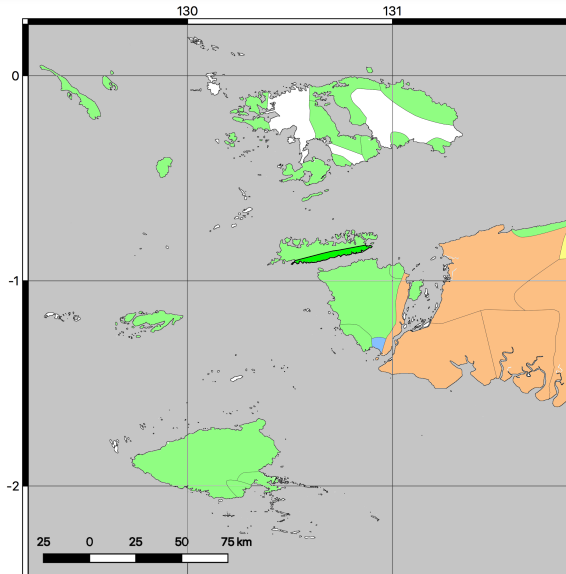
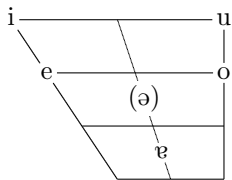


Figure 2: ['awé] 'child'



	labial	alveolar	palatal	velar	labial- velar	glottal
stops	p b	t d		k g		
fricatives	f	s				h
nasals	m̥ m	n̥ n		(ŋ)		
liquids		l r				
glides				j	w	



▶ /k/ → [q] ~ [ʔ] ~ [ʔ] ~ Ø

▶ /dem/ ‘3SG’









/dem̥/ ‘3PL’

▶ /máw/ ‘cat’

/m-maw/ ‘2SG-want’

▶ CjVC (plus: /mnjèt/ ‘cloud’, /mambri/ ‘hero’)

(2) Tonal near-minimal sets

High	Rise	Low	Toneless
líf ‘lime’ 		èf ‘island’ 	lif ‘tooth.3sg’ 
jín ‘fish’ 	lǐm ‘five’ 		
tál ‘banana’ 		tùl ‘three’ 	tol ‘egg’ 

▶ Sesquisyllabicity:

▶ /mnjèt/ ‘cloud’ vs. /mVnját/ ‘empty’

▶ Phonetic consequences:

▶ Onset clusters:

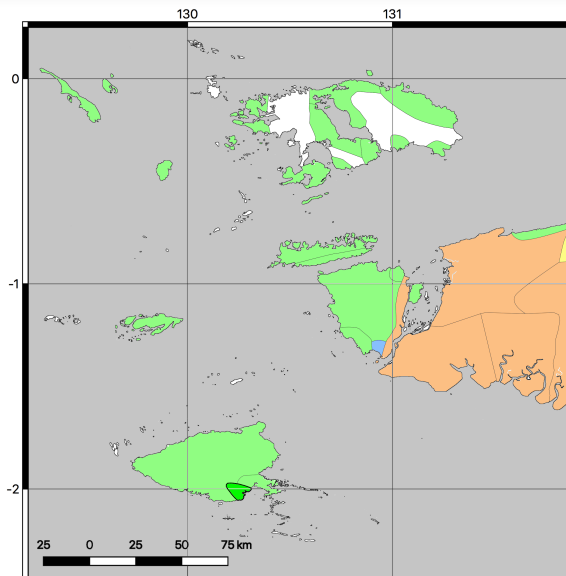
[tqǔ] ~ [təqǔ] ~ [tuqǔ] ‘chicken’

[hqów] ~ [həqów] ~ [hoqów] ‘heron’

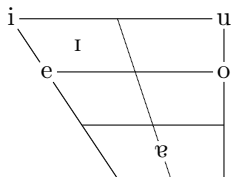
▶ Syllabic consonants:

[gɭgál] ~ [gɭlɣál] ‘mountain’

[gɭwáw] ~ [gəɭwáw] ‘new’

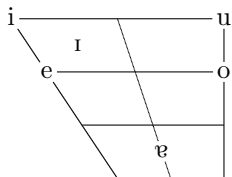


	labial	alveolar	palatal	velar	labial- velar	glottal
stops	p b	t d		k g		
fricatives	f	s				
nasals	m	n				
liquids		l r				
glides				j	w	



/k/ → [k] ~ [q]
 /w/ → [β] / ___ V [+high]

	labial		alveolar		palatal	velar		labial- velar	glottal
stops	p	b	t	d		k	g		
fricatives	f		s						
nasals		m		n					
liquids			l	r					
glides					j			w	



▶ /í/ ‘island’ vs. /íf/ ‘crocodile’


▶ CjVC

(3) Tonal near-minimal sets

High

lú ‘sea’ 


íf ‘island’ 

pít ‘moon’ 

Extra-High

lǔ ‘two’ 

ǐs ‘dog’ 



úť ‘louse’ 

Toneless

put ‘thorn’ 


► Why toneless?

- High and Extra-High restricted to word-final syllables
- Realisation of tonelessness same in word-medial and -final contexts: [HL] ~ [L]


e.g. [pûť-ò]  /put/ ‘thorn’, [kâfâńí]  /kafaní/ ‘bat’

(3) Tonal near-minimal sets

High

lú ‘sea’ 


íʃ ‘island’ 

pít ‘moon’ 

Extra-High

lǔ ‘two’ 

íʃ ‘dog’ 

úʃ ‘louse’ 

Toneless

put ‘thorn’ 

- ▶ $\emptyset < T_1 < T_2$ systems very rare worldwide:
 - ▶ More common: $T_1 < \emptyset < T_2$ (e.g. L < \emptyset < H)
 - ▶ Maddieson (1978)’s third tone universal: “Phonetically central tones are unmarked, extreme tones are highly marked”
 - ▶ Zenzontepec Chatino (Otomanguean, Mexico; Campbell 2016), Legbo (Delta Cross, Nigeria; Paster 2003): $\emptyset < M < H$

Summary

- ▶ +3 Austronesian languages with tone
- ▶ Relationship between syllabicity and tonal developments in Raja Ampat
- ▶ Typological rarities:
 - ▶ Butlih Salawati – Lexical stress + lexical tone (cf. Ma'ya, Remijsen 2001)
 - ▶ Biga – Unmarked low pitch

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Thanks for listening!

