

Kanánáaná

'Good morning'



Tone in the Binumarien noun phrase

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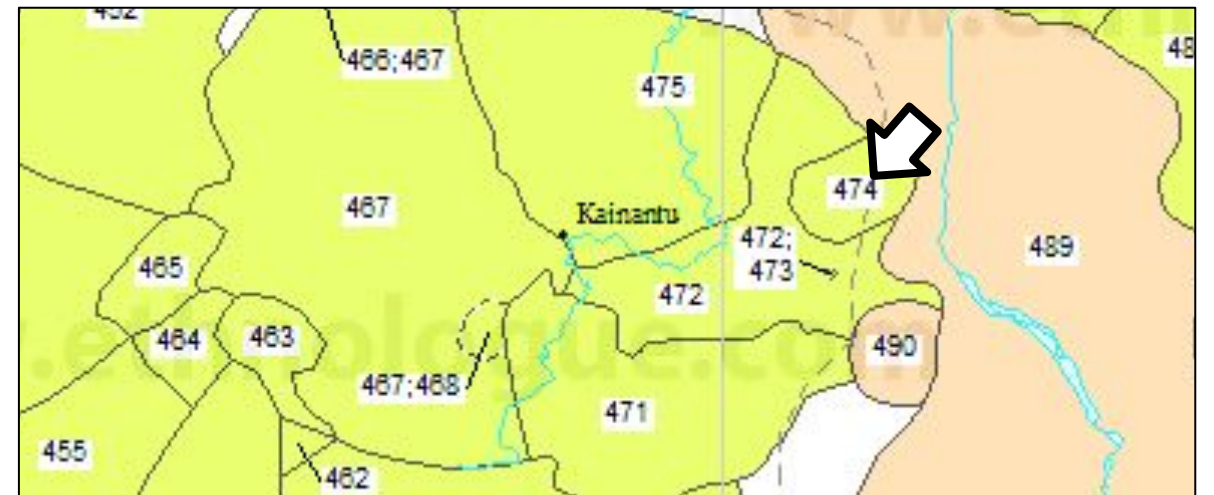
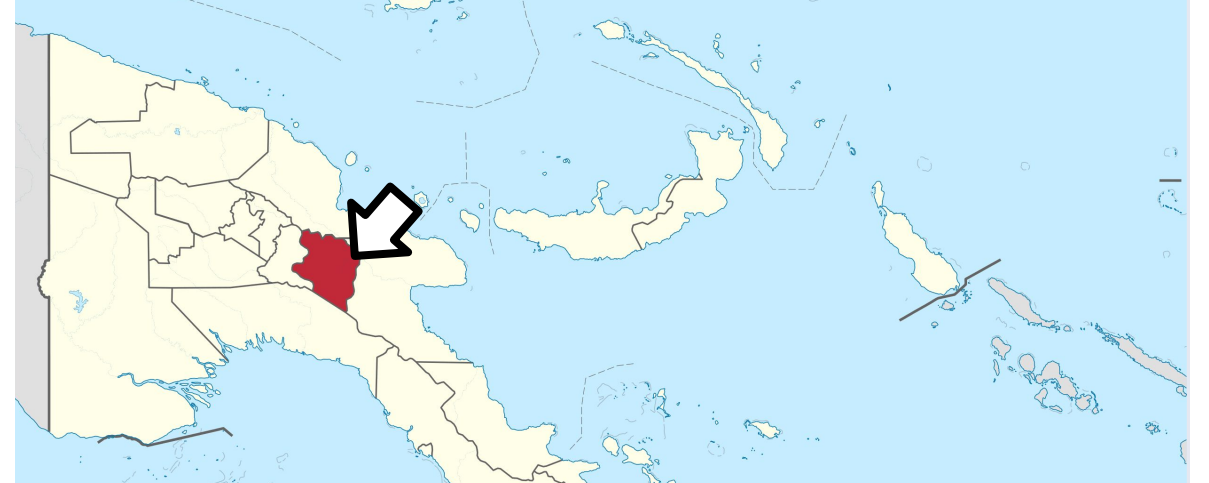
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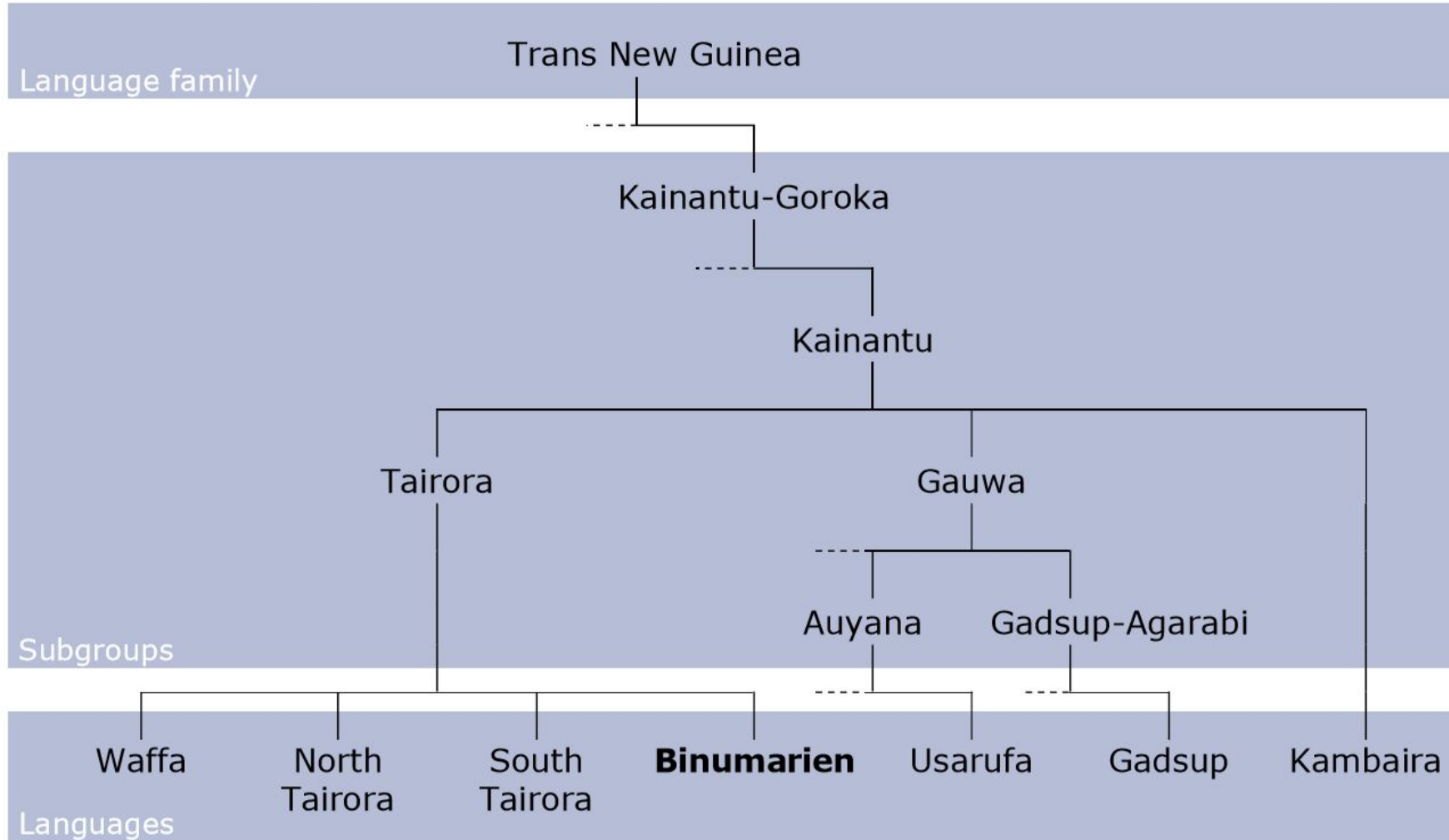


The Binumarien language

- Kainantu District, Eastern Highlands Province, PNG
- 1,200 speakers
- 'Vigorous'
- Whistled language



The Binumarien language



Binumarien phonology

Consonant segments

	labial	coronal	velar	glottal
stops	p b	t d	k	ʔ ⟨q⟩
fricatives	ɸ ⟨f⟩	s		
nasals	m	n		
approximants	w	j ⟨y⟩		
Liquids		r ⟨r⟩		

Vowel segments

	front	central	back
close	i i: ⟨ii⟩		u u: ⟨uu⟩
mid	e: ⟨ee⟩		o: ⟨oo⟩
open		a a: ⟨aa⟩	

Binumarien phonology

Syllables

- Consonants only occur in the onset.
- Clusters are prenasalised stops <mb>, <nd>; long nasals <mm>, <nn>.

Moras

- Only vowels represent a mora.
- A short vowel represents one mora; a long vowel represents two moras.

Binumarien examples

innaárúná 'sky'

súani 'sun'

uqooná 'moon'

fasáu 'star'

oonámú 'cloud'

óóndándá 'rainbow'

pupúsámú 'hail'

Typology of tone

Property-driven approach with four parameters (Hyman, 2009).

Obligatoriness

At least one /H/ per word.

Chuave (Trans-New Guinea, PNG):

H-H-H, H-H-L, H-L-H, L-H-L, (...)

Culminativity

At most one /H/ per word.

Tinputz (Austronesian, PNG):

L-L-L, L-L-H, L-H-L, (...)

Privativity

/H/ vs /∅/ instead of /H/ vs /L/.

Ekoti (Bantu, Mozambique):

∅-H-∅ > L-H-H

∅-H-∅-∅ > L-H-H-L

Metricality

There is a hierarchy of strong and weak syllables; tone is affected by this metrical hierarchy.

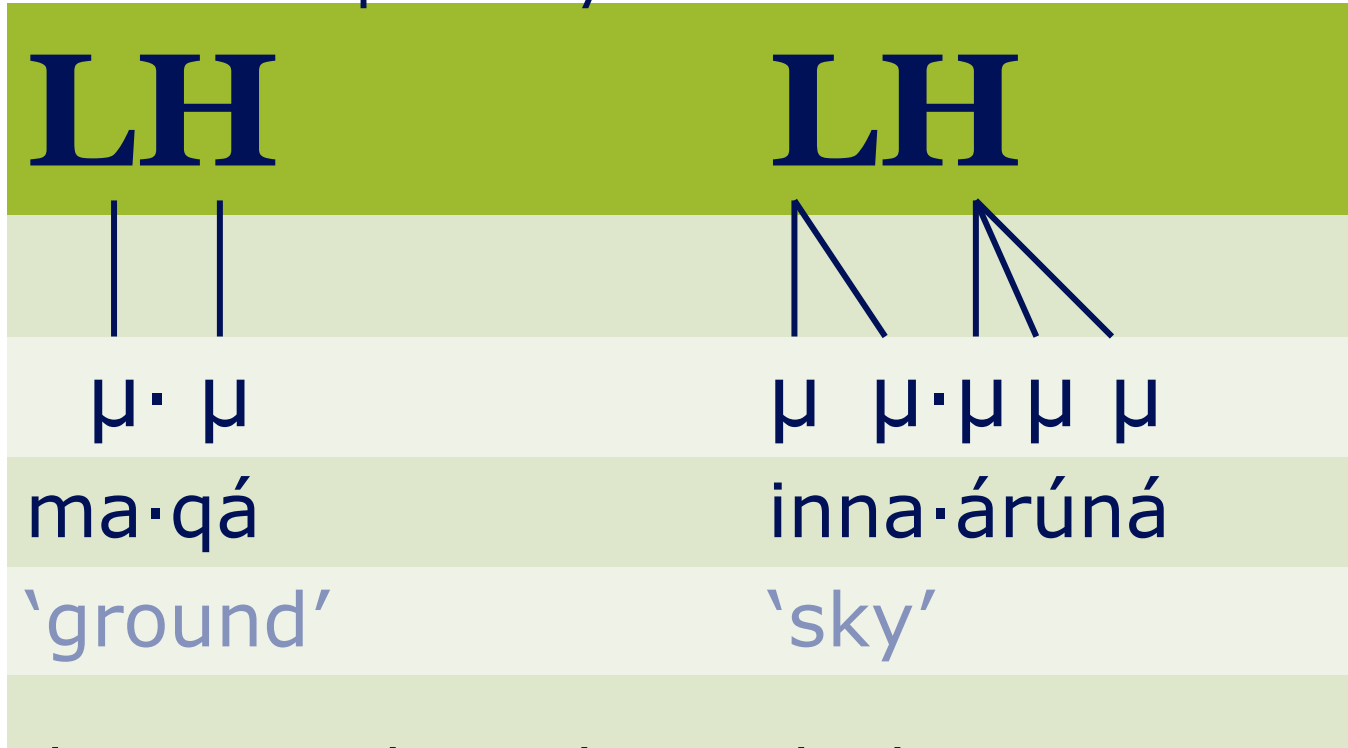
The prosody of noun roots

Each noun has one of the following four tone patterns.

H	LH	HL	LHL
áúró 	maqá 	sáni 	fasáu 
'egg'	'ground'	'stone axe'	'star'

The prosody of noun roots

Root-level prosody is realised on the mora.



The point where the pitch changes is not predictable.

faiqí	'child'		faíqí	'man'	
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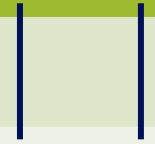
The prosody of noun roots

Each noun has one of the following four tone patterns: H, LH, HL, LHL.

	2μ	3μ	4μ	5μ
/H/	HH	HHH	HHHH	HHHHH
/LH/	LH	LLH	LLLH	LHHHH
		LHH	LLHH	LLHHH
			LHHH	LLLHH
				LLLLH
/HL/	HL	HLL	HLLL	HLLLL
		HHL	HHLL	HHLLL
			HHHL	HHHLL
				HHHHL
/LHL/		LHL	LHLL	LHLLL
			LLHL	LLHLL
			LHHL	LLLHL
				LHHLL
				LLHHL
				LHHHL

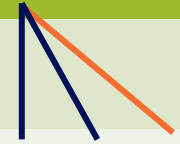
The prosody of noun roots

/H/ is **obligatory, culminative**. No **metricality**.

H	LH	HL	LHL
			
áúró	ma·qá	sá·ni	fa·sá·u
`egg'	`ground'	`stone axe'	`star'

Root prosody and affixes

Affixes receive tone from the root.

H	LH	HL	LHL
			
μ μ μ	μ· μ μ μ	μμ· μμ μ	μ μ· μ· μ μ
táqú-kí	sa·rúná-kí	táá·fee-ki	quro·ó·na-k i
'in bamboo'	'in the pandanus'	'in the taro'	'in the parrot'

Root prosody and affixes

Affixes can reveal the underlying word-level prosody.

LH	LHL
	
mu· mu mu mu	mu mu· mu mu· mu
sa·rúná- kí	saa·súná·- ki
'in the pandanus'	'in the axe'

Root prosody and affixes

Affixes can reveal the underlying word-level prosody.



Root prosody and affixes

Affixes can reveal the underlying word-level prosody.



Root prosody and affixes

LH	HL	LHL
		
μμ μ· μ	μμ μ· μ	μμ· μ μ· μ
eeqa·-kí	kúárá·-ki	pai·páná·-ki
'in the banana'	'in the pig'	'in the knife'

Prosody of compounds

In English, the **semantic head** is right, but the **prosodic head** is left.

Semantic head

`containers**ship**'

Prosodic head

`**con**tainership'

In this respect, Binumarien is the same.

Prosody of compounds

The **semantic head** is right; the **prosodic head** is left.

LH	LH		LH
iroo·sá	ufaana·	>	iroo·súfáná
`t.o. bandicoot'	`trap'		`bandicoot trap'
HL	LH		HL
kúárá·	ufaana·	>	kúár·ufana
`pig'	`trap'		`pig trap'

Prosody of adjective-noun combinations

The tone pattern of both roots is maintained.

HL	LH		HL	LH
káqí·kaa	sa·qárí	>	káqíkaa	saqárí
`small'	`tree'		`small tree'	
LH	LH		LH	LH
firaa·	sa·qárí	>	firaa	saqárí
`big'	`tree'		`big tree'	

Obligatory high tone on utterance-level

If the /H/ in the roots is not realised, the last mora of the utterance is /H/.

Binumarien has a **privative** system.

HL

LH

káqí·kaa

kupee·

>

káqíkaa kupee

`small'

`ant'

`small ant'

LH

LH

firaa·

kupee·

>

firaa kupeeé 

`big'

`ant'

`big ant'

Obligatory high tone on utterance-level

Various underlying patterns result in a /H/ final mora.

LH	LH	LHL
mu mu · mu mu	mu mu mu · mu	mu mu · mu · mu
koo·qí-kí	ufini·-kí	ama·qí·-ki
`in the door'	`in the bird'	`in the meat'
kooqí	ufiní	amaqí
`door'	`bird'	`meat'

Downstep

	
táqú-fáqá túká-fáqá	túká-fáqá táqú-fáqá
'bamboo and box'	'box and bamboo'
	
qíní saná	
'my taro'	

Discussion and conclusion

- Each root has one of four patterns. H, LH, HL, LHL
- Pattern is realised on moras. innaárúná
- Point of pitch change is unpredictable. fai·qí / fa·íqí
- Affixes receive tone from the root. sarúná-kí
- The full pattern is not always realised within the root. saasúná-ki
- The prosodic head of compounds is left. kúárufana
- If no root assigns /H/, the last mora has /H/. ufiní
- Downstep requires further research. qiní sanā



Typology of tone

Property-driven approach with four parameters (Hyman, 2009).

Obligatoriness

At least one /H/ per word.

✓ Each Binumarien noun root has at least one /H/.

Culminativity

At most one /H/ per word.

✓ Each Binumarien noun root has at most one /H/.

Privativity

/H/ vs /∅/ instead of /H/ vs /L/.

✓ The tone of Binumarien affixes is dependent on the root prosody; /H/ is obligatory, /L/ is not.

Metricality

Tone is affected by the metrical hierarchy.

✗ Binumarien syllables have no metrical hierarchy.

References

- Bee, Darlene, and Kathleen Barker. 1962. "Usarufa tone and segmental phonology." In *Studies in New Guinea linguistics*, James C. Dean (ed.), 111-127. Sydney: University of Sydney.
- Cowan, George M. 1976. „Whistled Tepehua." In *Speech surrogates: drum and whistle systems*, Thomas Albert Sebeok and Jean Umiker-Sebeok (eds.), 1400-1408. The Hague: Mouton.
- Donohue, Mark. 1997. "Tone systems in New Guinea." *Linguistic Typology* 1: 347-386.
- Eberhard, David M, Gary F. Simons, and Charles D. Fennig (eds.). 2019. *Ethnologue: Languages of the World*. Twenty-second edition. Dallas: SIL.
- Foley, William A. 1986. *The Papuan languages of New Guinea*. Cambridge: Cambridge University Press.
- Hyman, Larry M. 2009. "How (not) to do phonological typology: the case of pitch-accent." *Language Sciences* 31: 213–238.
- Hyman, Larry M. 2006. "Word-prosodic typology." *Phonology* 23: 225–257.
- McKaughan, Howard. 1973. "Introduction." In *The Languages of the Eastern Family of the East New Guinea Highland Stock*, Howard McKaughan (ed.), 515-516. Washington: University of Washington Press.
- Oatridge, Des, and Jennifer Oatridge. 1973. "Phonemes of Binumarien." In *Papers in New Guinea Linguistics*, Howard McKaughan (ed.), 13-22. Washington.
- Snider, Keith L. and William R. Leben. 2018. *Tone Analysis for Field Linguists*. SIL International Publications.
- Wurm, Stephen A. 1975. *New Guinea Area Languages and Language Study. Vol. 1: Papuan Languages and the New Guinea Linguistic Scene*. Canberra: Australian National University.
- Xiao, Hong. 1990. "A Genetic Comparison of Hua, Awa and Binumarien." *Language and Linguistics in Melanesia* 21: 143-166.

Dúfi dúfi 'thank you'



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