

APPENDIX

A COMBINED COMPARATIVE AND PHYLOGENETIC ANALYSIS OF THE CHAPACURAN LANGUAGE FAMILY

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SUPPLEMENTARY MATERIALS

Complete Data Set and Additional Information

SOURCES

The following sources have been used for the cognate sets in Table S1 below. Data taken from the primary source are indicated in normal script and data from the secondary source are indicated in italics.

Wari’:	Everett and Kern (1997) (primary); Kern (1996) (<i>secondary</i>)
Oro Win:	Birchall fieldwork (primary); França (2002) (<i>secondary</i>)
Wanyam:	Ribeiro (1998) (primary); Hanke (1975) (<i>secondary</i>)
Urupá:	Nimuendajú (1925) (primary)
Jarú:	Rondon and de Faria (1948) (primary) ¹
Torá:	Nimuendajú (1925) (primary)
Cojubim:	Duran (2000) (primary)
Moré:	Angenot de Lima (2002) (primary); Leigue Castedo (1957) (<i>secondary</i>)
Tapakura:	Créqui-Montfort and Rivet (1913) (primary)
Kitemoka:	Créqui-Montfort and Rivet (1913) (primary)

CODING CONVENTIONS

In the following table, the lexical data are organized according to base meanings, with each row containing a different group of etymologically-related items (cognate sets) that correspond to that base meaning. The symbol <?> indicates that no lexical item corresponding to the base meaning was identified in the available materials, and additionally, that no lexical item was identified as cognate with the corresponding

¹ For a number of verbs in Rondon and de Faria (1948), an initial <ka> was removed before the verb stem since this reflects a citation form that is not used in other languages.

form/meaning pair, accounting for limited semantic shift. The symbol <-> indicates that no cognate form exists in the language, with the implication that the language displays at least cognate form for the corresponding meaning. Such data points are treated as <0> (absent) in the lexical analyses. The distinction between unknown <?> and absent <0> was introduced in the data coding to avoid statistical errors in the analysis resulting from the presence of false negative cognate judgments.

ORTHOGRAPHIC CONVENTIONS

The orthography used reflects the interpretation of the original sources into IPA. We changed <c> and <qu> into <k> in documents based on a Portuguese orthography, such as Everett and Kern (1997). In sources with a Spanish-based orthography, such as Créqui-Montfort and Rivet (1913), <hu> is treated as <w> and <ll> becomes <j>. The symbol <x> used in Créqui-Montfort and Rivet (1913) is treated as <h>.

The Torá data includes the symbol <ë>, which Nimuendajú (1925:148) describes as “between *e* and *a*”. Since we are currently unable to confirm whether this grapheme represents a sound that is contrastive with the sound represented by <e> elsewhere in this source, we have maintained the use of this grapheme in the transcription.

It is worth noting that not all sources follow a strictly phonemic transcription since a comprehensive phonological analysis is not available for all the languages, especially those that are no longer spoken. For example, the Torá data in Nimuendajú (1925) include a number of word-final <dn> and <bm> clusters whose phonemic status remains unclear. Similarly, the use of voiced stops in the Jarú data in Rondon and de Faria (1948) and the Urupá data in Nimuendajú (1925) may in fact represent allophones with either the voiceless or nasal counterpart of the segment.

SUBSTITUTIONS AND ADDITIONS

The following substitutions were made for items on the Swadesh 207 list:² Hunt → Shoot with arrow; Hound → Peccary; Year → Summer. The meanings Afternoon and Deer were added to the original Swadesh 207 list.

² http://en.wiktionary.org/wiki/Appendix:Swadesh_lists.

Meaning	Set	Wari'	Oro Win	Wanyam	Urupá	Jarú	Torá	Cojubim	Moré	Tapakura	Kitemoka
I	A	wata?	wata?	wata?	wata	?	waza	waza	waza	waja	waja
You sg.	A	wum	wym	im	vim	?	webm	um	momra	awimo	ahum
He	A	wiriko	woriko	arukwan	okain	?	wariko	?	korari	arikahu	ariko
We	A	wari?	wari?	wari	wari	?	wazati	?	wati?	wajahu	watje
You pl.	A	wahu?	fu?	?	?	?	wihu	?	wura	?	?
They	A	wirikoko	worikoko	?	?	?	wariko bap	?	-	-	?
They	B	-	-	?	?	?	-	?	omapu	-	?
They	C	-	-	?	?	?	-	?	-	aʃiri	?
Who/What	A	-	ati	?	?	?	-	?	ati	?	?
Who/What	B	kap	-	?	?	?	teokaj	?	tikow	?	?
Many	A	mija	mija?	-	-	?	jab	-	-	?	-
Many	B	-	napa	-	-	?	-	napa	napa	?	-
Many	C	-	-	-	katimisam	?	-	-	-	?	-
Many	D	-	-	-	-	?	asiněji	-	-	?	-
Many	E	-	-	-	-	?	-	-	-	?	patiako
Few	A	parik	-	-	?	?	?	?	-	-	?
Few	B	-	-	irakaw	?	?	?	?	-	-	?
Few	C	tokwan	kawasan toman	-	?	?	?	?	-	-	?

Few	D	-	-	-	?	?	?	?	<i>pun as</i>	-	?
Few	E	-	-	-	?	?	?	?	-	matia	?
One	A	-	kawasan	kawatfyk	-	?	kwatadn	tan	tan	tan kua	-
One	B	-	-	-	munim	?	-	-	-	-	-
One	C	-	-	-	-	?	-	-	-	-	mamai-omaitje
Two	A	tyky karakan	-	karikan	?	?	kuradn	wakoran	pokoran	wagaragatan	?
Two	B	-	jiksam	-	?	?	-	-	-	-	?
Two	C	-	-	-	?	?	-	-	-	ajuken	?
Big	A	hwara?	fora?	-	-	hora	-	-	-	-	-
Big	B	-	ekem	-	evekem	-	ukadn	-	-	-	-
Big	C	<i>kote ne</i>	-	-	-	-	-	-	-	-	-
Big	D	-	-	-	-	-	-	ina	<i>ina</i>	-	-
Big	E	-	-	iparinaj	-	-	-	-	-	-	-
Big	F	-	-	-	-	-	-	-	-	kowikon	-
Big	G	-	-	-	-	-	-	-	-	-	karatsaiko
Small	A	wijima	wijaman	wijikun	iamaj	-	-	-	-	-	-
Small	B	-	-	-	-	-	-	-	-	mitfitikon	pijitiko
Small	C	-	-	-	-	-	-	e	<i>eje</i>	-	-
Small	D	-	-	-	-	-	nyaetfidn	-	-	-	-

Small	E	-	-	-	-	ip	-	-	-	-	-
Woman	A	narima?	jamirima	jamarima?	jamra	jamiriman	-	-	-	-	-
Woman	B	-	-	-	-	-	-	tanaman	tanaman	-	-
Woman	C	-	-	-	-	-	nakamin	-	-	jamake	jamaki
Man	A	tarama?	kitrama	kitarama?	kitrama	kitraman	-	-	-	-	-
Man	B	-	-	-	-	-	nakon	namakon	namakon	-	-
Human	A	wijam	wajam	wanjam	-	wanjan	-	-	wanjam	-	?
Child	A	hwijima?	ifijama	marahujama	uhunjam	onjan	-	-	joma	-	-
Child	B	pije?	-	-	-	-	-	-	-	-	-
Child	C	-	-	-	-	-	irato	rato	rato?	-	-
Child	D	-	-	-	-	-	-	-	-	-	etiw
Child	E	-	-	-	-	-	-	-	-	witʃitikon	-
Mother	A	na?	ina	ina?	-	-	inja	ina?	ina?	?	?
Mother	B	we	ywe	ewi?	ive	uwe	iwi	uwe?	uwe?	?	?
Father	A	te	ite?	tata	ete	ete	ite	ite	ite	tia-tia	tatia
Animal	A	-	-	pati?	?	?	?	pati?	pati?	?	?
Animal	B	karawa	-	-	?	?	?	-	-	?	?
Fish	A	hwam	ifam	iham	iham	iham?	hoam	-	-	ihuam	iham
Bird	A	me	yme	ime?	ume	ume	uma	ume	ume	ime	hume

Peccary	A	-	-	tokawan	?	?	tukawadn	tokowan	tokowan	tukawa	tukawan
Peccary	B	katatjik	-	-	?	?	-	-	-	-	-
Peccary	C	-	oro jaman	-	?	?	-	-	-	-	-
Deer	A	-	-	-	jemob	wijemu	vijemop	-	jimop	-	-
Deer	B	komem	-	-	-	komem	-	-	-	-	-
Deer	C	-	-	imari?	-	-	-	-	-	kimari	kimari
Deer	D	-	aranasi	-	-	-	-	-	-	-	-
Deer	E	-	-	-	-	-	-	towam	-	-	-
Louse	A	iw?	iwisi	iwi	iw	-	iw	iw	iw	awi	ahihi
Snake	A	-	karakaw	karakaw	krakaw	krakaon	karakaw	karakaw	karakaw	?	?
Snake	B	em?	-	-	-	-	-	-	-	?	?
Worm	A	mete?	emete?	-	?	emete	?	-	-	?	?
Worm	B	-	-	-	?	-	?	-	natanatan	?	?
Worm	C	-	-	akak	?	-	?	-	-	?	?
Forest	A	mi	omi	omi	?	-	umi	?	umi	-	omi
Forest	B	-	-	-	?	horoam	-	?	-	-	-
Forest	C	-	-	-	?	-	-	?	-	witip	-
Stick	A	pana	pana	pana	pana	pana	pana	pana	pana	pane	?
Fruit	A	-	ipijam	ipijam	?	opiā pana	?	upeji pana	upeje pana	-	-

Fruit	B	memem	-	-	?	-	?	-	-	-	-
Fruit	C	-	-	-	?	-	?	-	-	maritia	-
Fruit	D	-	-	-	?	-	?	-	-	-	pekononji
Leaf	A	taji	tajinan	tain	?	?	-	tan	tan	-	-
Leaf	B	-	-	-	?	-	murami	-	-	-	-
Leaf	C	-	-	-	?	-	-	-	-	-	atia
Leaf	D	-	-	-	?	-	-	-	-	ʃupu	-
Root	A	katʃima	sikinan	-	?	?	-	-	-	?	?
Flower	A	piwan	piwan	-	?	piwan	piwaj	piwan	piwan	-	-
Flower	B	-	-	-	?	-	-	-	-	tahune	tohot pe
Grass	A	tononon	-	-	?	-	?	?	-	-	-
Grass	B	-	-	iwijip	?	iwip	?	?	-	-	-
Grass	C	-	kawawa?	-	?	-	?	?	-	-	-
Grass	D	-	-	-	?	-	?	?	-	wiʃiti morutam	wiwiti
Grass	E	-	-	-	?	-	?	?	towan	-	-
Rope	A	makon	mokorikon	mokon	mukon	-	-	mokon	mokon	?	?
Rope	B	-	-	-	-	kurupi	tukuripa	-	-	?	?
Skin	A	taparitʃi?	toporisi	tupariʃi?	tuparisi	tuparesi	tupara	?	topan	tuparitʃi	paritʃe
Meat	A	kweretʃi?	ykeresi	ikerem	?	ikekren	?	?	ukun	?	?

Blood	A	kitʃi?	wikisi	wiki	wikisi	wit	wi	?	wyk	awi	aweitʃe
Bone	A	aratʃi?	aran	araj	arasi	rasi	ataʃi	at	at	atat	taritʃe
Fat	A	homaŋ	mafomasi	wahumajn	?	ahomi	taahon	mapum	mapom	momikum-kiru	-
Fat	B	-	-	-	?	-	-	-	-	-	mitaikongo
Egg	A	arajeŋ	arikon	arikon	erejen	rejen	azeron	ari jaŋ	ariza	ateranta	tirantia
Horn	A	pitʃinaŋ	pitikon	-	?	-	?	-	-	-	pitʃi
Horn	B	-	-	tatawi	?	-	?	tataw	tataw	-	-
Horn	C	-	-	-	?	ileken	?	-	-	-	-
Horn	D	-	-	-	?	-	?	-	-	injawan	-
Tail	A	kahwereŋ	keferesi	kahire	?	?	?	kipun	kipun	-	-
Tail	B	-	-	-	?	?	?	-	-	tʃipitʃi	sokotʃetitʃe
Hair	A	tenenetʃi?	tynesi	<i>tiniʃi?</i>	-	tinji	tuni	tuna	tuneŋ	tʃumitʃi	tʃumitʃe
Hair	B	-	-	-	yvenesi	juhenesi	-	-	-	-	-
Hair	C	-	-	-	-	jupisi	-	-	-	-	-
Head	A	-	ipijisi	ipijiʃi?	ypirisi	-	upujeʃi	upek	upwik	upatʃi	paitʃe
Head	B	winatʃi?	-	-	-	-	-	-	-	-	-
Head	C	-	-	-	-	totepisi	-	-	-	-	-
Ear	A	tarajitʃi?	trajisi	tarajiʃi?	traisi	traisi	-	-	-	taitatatʃi	tatiatatʃe
Ear	B	-	-	-	-	-	tetete	tenetet	tenetet	-	-

Eye	A	tokotʃi?	tokisi	tokiʃi?	tukesi	tekisi	tok	tok	tok	tukutʃi	kutʃi
Nose	A	weretʃi?	yrysi	iriʃi?	juresi	jolisi	uj	ur	uʒ	uturutʃi	turutʃe
Mouth	A	topak	topakasi	topakaʃi?	tupakasi	tupakasi	-	?	topak	tupakatʃi	-
Mouth	B	-	-	-	-	-	-	?	-	-	rikajatʃi
Mouth	C	-	-	-	-	-	tuaraw	?	-	-	-
Tooth	A	tʃitʃi?	ijitisi	ijitiʃi?	jetisi	itisi	jatiʃi	?	jat	jatitʃi	ijaditʃe
Tongue	A	petehwet	tepekejesi	-	-	-	-	-	-	tapuitakatʃi	-
Tongue	B	kapijatʃi?	-	kapijakaʃi?	kapiakasi	kapiakasi	kapiakiʃi?	kapajak	kapajak	-	kapikakatʃe
Fingernail	A	tʃikinatʃi?	sykynesi	pikinaʃi?	?	pisikinisi	pesoro	-	-	-	?
Fingernail	B	-	-	-	?	-	-	tupi	tupi	-	?
Fingernail	C	-	-	-	?	-	-	-	-	naimitʃi	?
Foot	A	katʃimatʃi?	-	katimaʃi?	katimasi	katimasi	kazima	-	-	kaimatʃi	kaimatʃe
Foot	B	pitʃijatʃi?	pasomasi	-	-	-	-	-	-	-	-
Foot	C	-	-	-	-	-	ʃikiniʃi	tʃinak	tʃinak	tʃikitʃi	-
Leg	A	kokotʃi?	fokisi	hokiʃi?	?	ekisi	hok	pok	pok	ukutʃi	kohotʃi
Knee	A	karamatʃi?	<i>makaramasi</i>	warakaramaʃi?	?	-	-	-	-	-	-
Knee	B	-	mafonasi	-	?	-	-	-	-	-	-
Knee	C	-	-	-	?	toketekilipasi	tukazim	tokozim	tukuzim	tukaimatʃi	tukaivatʃe
Hand	A	mitʃi?	-	-	-	-	umu	-	um	umitʃi	umajo

Hand	B	taparatʃi?	tiprasi	tiparaʃi?	tiprasi	tiprasi	tipara	tipan	tipan	itʃoparatʃi	tʃeparaju
Wing	A	tapatʃi	napatinan	nipat	?	-	?	nipat	nipat	hipatʃi	ipati-ko
Belly	A	-	kimi	kimijekin	?	tokotepasi	tosipa	-	tim	tekematʃe	kimotʃe
Belly	B	-	tapawakon	-	?	-	-	-	-	-	-
Belly	C	-	-	-	?	-	-	tʃakaw ta	tʃakaw	-	-
Belly	D	pemenetʃi?	-	-	?	-	-	-	-	-	-
Guts	A	monotʃi?	monosi	-	?	menesi	?	kirimon?	mukuri mon	amunitʃi	waememitʃe
Guts	B	-	-	karapap wajiʃi?	?	-	?	-	-	-	-
Guts	C	-	-	-	?	-	?	-	-	-	anteretʃe
Neck	A	paramatʃi?	oparamasi	uparamaʃi?	?	upramasi	patama	patam	patam	-	-
Neck	B	kanemitʃi?	-	-	?	-	-	-	-	hukiminitʃi	aikepemitʃe
Back	A	waratʃi?	arawasi	awaraʃi?	erawasi	arawasi	wuritim	ataw	ataw	otowatʃi	totojatʃe
Breast	A	karatʃitʃi?	karatisi	karatʃi?	karatisi	-	katasan	katat	katat	-	-
Breast	B	kimatʃi?	ikimasi	-	-	ikimasi	ikima	-	<i>kima</i>	-	kematakama
Heart	A	tʃimitʃi?	timisi	timijʃi?	?	temisi	timu	toku ru tim	tuku ritim	simitʃi	simitʃe
Liver	A	tarawanatʃi?	trawrisi	tarawaneʃi?	?	trawanasi	trawana	tʃawan	sawan	?	?
Drink	A	tok	tok	tuka	tok	?	tuk	tok	tok	?	kot
Eat	A	kaw	kaw	kaw	kaw	kaw	kaw	kaw?	kaw	kaw	kaw
Bite	A	kiw	kiw	kiw	?	-	kiw	kiw?	kiw	?	?

Bite	B	-	-	-	?	tapit?	-	-	-	?	?
Suck	A	tʃak	itak	ʃak	?	?	?	tʃak	tʃak	?	?
Vomit	A	we?	ywe?	we	?	we	?	we?	we	?	?
Breathe	A	wereme	woram	uram	?	?	?	-	awi ram	?	?
Breathe	B	-	-	-	?	?	?	zak	ʒak	?	?
Laugh	A	tatam?	tarim	trahum	?	?	?	tasam	tasam	-	-
Laugh	B	-	-	-	?	?	?	-	-	matimuiara	-
Laugh	C	-	-	-	?	?	?	-	-	-	eva
See	A	kerek	kirik	kirik	?	?	krid	kirik	kirik	kirik	tirig
Hear	A	-	worapat	warapat	?	?	?	rapat	arapat	?	?
Fear	A	jin?	ijin	inin	?	injin	ejidn	inin?	ijin	?	?
Sleep	A	pi? am	ypen	ipen	ypen	upejam?	upon	upin	upen	-	-
Sleep	B	-	-	-	-	-	-	-	-	watʃiahe	-
Sleep	C	-	-	-	-	-	-	-	-	-	ootʃe
Die	A	mi?	imi?	imi	?	imi	imi	imi?	imi	?	?
Kill	A	pa?	pa?	pa	tupab	pa	pa	pa?	pa	-	-
Kill	B	-	-	-	-	-	-	-	-	tuakun	tioakko
Fight	A	mana?	tamana?	-	?	-	?	-	-	?	?
Fight	B	mitʃita?	-	-	?	-	?	-	-	?	?

Fight	C	-	-	aferemi	?	-	?	-	arami je	?	?
Fight	D	-	-	-	?	eke	?	-	-	?	?
Fight	E	-	-	-	?	-	?	-	jim	?	?
Shoot	A	hyry	fri?	hiri	?	-	-	puru	puru	?	?
Shoot	B	-	-	-	?	-	tap	-	-	?	?
Shoot	C	-	-	-	?	keu	-	-	-	?	?
Hit	A	to?	to?	to	tupan	?	-	-	ton	?	?
Hit	B	-	pak	-	-	?	pak	pap	-	?	?
Cut	A	ta	ta kat	takat	?	ta	ta	ta?	ta	-	?
Cut	B	wak	wak	-	?	-	-	wak	wok	-	?
Cut	C	pit	pit	pit kiran	?	-	-	-	-	pitjiram	?
Dig	A	tiki?	tiki	kit	?	?	?	tuk	-	?	?
Dig	B	-	-	-	?	?	?	-	putum	?	?
Swim	A	-	jy	ji	?	-	?	-	-	-	?
Swim	B	pan kam	-	-	?	-	?	-	-	-	?
Swim	C	-	-	-	?	he	?	-	-	-	?
Swim	D	-	-	-	?	-	?	-	kawak	kawa ko	?
Swim	E	-	-	-	?	-	?	marakujan	-	-	?
Fly	A	taki?	taki	taki	?	?	?	-	-	?	?

Fly	B	-	ijam	-	?	?	?	-	-	?	?
Fly	C	-	-	-	?	?	?	ze	ze	?	?
Walk	A	tjyt	tyt	tit	?	tet	?	tot	tut	?	?
Come	A	maki?	maki	-	?	?	maki?	-	-	-	-
Come	B	-	-	iwan	?	?	-	iwan	iwan	-	-
Come	C	-	-	-	?	?	-	-	-	mana	-
Come	D	-	-	-	?	?	-	-	-	-	nia
Lie	A	terem?	tim	tarim	-	trem	wuritimi	titim?	-	-	-
Lie	B	toko?	toko?	-	-	-	-	-	-	-	tjekom
Lie	C	tak	-	-	tak	ta	-	-	zak	-	-
Lie	D	-	-	-	-	-	-	-	-	wa	-
Sit	A	pe?	pe	pe	?	?	pi	pe	pwe	pepe	?
Stand	A	teki? pe	-	?	?	?	?	tak	taki	tekiyepe	-
Stand	B	-	pan	?	?	?	?	-	-	-	-
Stand	C	tjat	-	?	?	?	?	-	-	-	sed
Fall	A	pan?	ipan	ipan	?	-	ipad	ipan	ipan	?	?
Fall	B	kamara?	-	-	?	-	-	-	-	?	?
Give	A	mi?	mi?	min	?	?	mi?	mi?	mi	mi	me
Wash	A	-	wirikom	irokon	?	rokon	?	-	-	?	?

Wash	B	hohok	-	-	?	-	?	-	-	?	?
Wash	C	-	-	jawa	?	-	?	tfaw	tfaw	?	?
Pull	A	køk	kok tBot	?	?	?	?	ko	ko	?	?
Push	A	jøk	jyk	jek	?	?	?	jok	-	?	?
Push	B	-	-	-	?	?	?	-	tun	?	?
Throw	A	tfin	sin	fin	?	?	?	-	-	?	?
Throw	B	-	-	-	?	?	?	pin	pwin	?	?
Tie	A	paw?	paw	paw	?	?	?	-	paw	?	?
Tie	B	-	-	-	?	?	?	pip	pip	?	?
Say	A	tomi?	-	-	-	?	?	-	-	timi	tumi
Say	B	-	na?	-	-	?	?	-	-	-	-
Say	C	-	-	wanjam	-	?	?	-	-	-	-
Say	D	-	-	-	pa	?	?	-	-	-	-
Say	E	-	-	-	-	?	?	ja	ja	-	jajara
Sing	A	kom	kom	kum	?	-	?	-	-	-	-
Sing	B	-	-	-	?	haka	?-	-	-	-	-
Sing	C	-	-	-	?	-	?	wo	wo ki	-	-
Sing	D	-	-	-	?	-	-	-	atfimara	-	-
Sun	A	-	-	wapiru	-	-	apito	mapito?	mapwito	wapuito	papuitio

Sun	B	tʃina	-	-	-	-	-	-	-	-	-
Sun	C	-	-	-	kumen	komem	-	-	-	-	-
Sun	D	-	fakami?	-	-	-	-	-	-	-	-
Moon	A	panawo?	-	panawo?	panao?	panau	panao	panawo?	panawo?	panato	pnato
Star	A	pijo?	-	upiju?	upijo	upiu	pipijo	pi pijo	pipijo	wipijao	piʃ?ahu
Star	B	-	oro jawin	-	-	-	-	-	-	-	-
Water	A	kom	kom	kom	kom	ko	kom	kom	kom	akum	ako
Rain	A	tʃowi?	sowi?	ʃuwi?	sui	soi	-	-	tʃuwe	-	-
Stone	A	pakyn	pekyn	pekin	pakyn	paken	pikun	pikun	pikun	pekun	pikui
Sand	A	namaji	namaji?	nimaji?	?	namajekun	mijmaj	-	mimaz	-	-
Sand	B	-	-	-	?	-	-	-	-	umati	mate
Earth	A	makan?	namakan	namakan	manaka	manakan	-	namakan	namakan	jamakan	emakan
Earth	B	-	-	-	-	-	timak	timak	timak	tʃimak	tʃema
Sky	A	nanawin	awin	awin	awin	awi	awin	awin	awin	awin	awen
Wind	A	hotowa	pafoti?	pahoti?	-	-	pahuzi	-	-	-	-
Wind	B	-	-	-	kako	kaho	-	-	-	-	-
Wind	C	-	-	-	-	-	-	pujani	pujani	-	-
Wind	D	-	-	-	-	-	-	-	-	-	irin
Smoke	A	-	-	iwi	iwi	iwi	iwi?	iwi?	iwi	?	?

Smoke	B	taŋ?	-	-	-	-	-	-	-	-	?	?
Smoke	C	-	toroto?	-	-	-	-	-	-	-	?	?
Fire	A	tʃe	ise	ife?	ise	ise	ife?	itʃe	itʃe	ise	ise	ise
Ashes	A	topakon	morotipakon	?	murupatekon	burete pakon	murooton	?	rupitsikon	?	?	?
Road	A	wana	wana?	wana?	?	?	wana	wana	wana	?	?	?
Red	A	-	mem	-	-	-	mëbn	mem	mem	-	-	-
Red	B	paka?	-	pakaŋikon	-	-	-	-	-	-	-	-
Red	C	-	-	-	tym	tem?	-	-	-	-	-	-
Red	D	-	-	-	-	-	-	-	-	tupafini	tiopatfene	-
Yellow	A	koʃik	-	-	?	?	-	-	-	-	-	-
Yellow	B	-	-	-	?	?	-	-	sasik	-	-	-
Yellow	C	-	-	-	?	?	-	-	-	ituwi	atʃiwi	-
White	A	towo?	towa?	towa	tua	toa	tuag	towa?	towa	-	-	-
White	B	-	-	-	-	-	-	-	-	tahuti	tihoti	-
Black	A	mitʃem	mesem	-	-	-	morem	-	-	-	-	-
Black	B	-	-	tukan	-	-	-	-	-	-	-	-
Black	C	-	-	-	skaid	sagaj	-	-	-	-	-	-
Black	D	-	-	-	-	-	-	-	-	witam	juitamake	-
Black	E	tom	tom	-	-	-	-	tom	tom	-	-	-

Night	A	tʃim	itim	itim	?	etim?	ijsibm	isim	isim	paitin	paitin
Day	A	towa	towa	towa	?	toa	toa	-	-	tuwa	?
Day	B	tʃek	-	-	?	-	-	-	-	-	?
Day	C	-	-	-	?	-	anapat	tipat	tijipat	-	?
Summer	A	kawatʃi?	kawati?	kawati?	?	?	?	kawazi?	kawaʒi	?	?
Cold	A	tʃiw	surimi	-	siv	?	siuni	tʃiw?	tʃiw	?	?
Cold	B	-	-	kipin	-	?	-	-	-	?	?
New	A	tʃokori	sokori	?	?	?	tukurudn	?	-	?	?
New	B	-	-	?	?	?	-	?	takan	?	?
Old	A	horon	foron	marahoron	?	?	-	?	-	-	-
Old	B	-	-	-	?	?	serati	?	-	-	-
Old	C	-	-	-	?	?	-	?	-	itarakun	tarakon
Old	D	-	-	-	?	?	-	?	ukut	-	-
Good	A	awi?	awi	-	-	-	-	-	-	-	-
Good	B	-	isap	-	wasab	asap	-	-	-	nawasa	navisaja
Good	C	-	-	ija	-	-	-	nami?	-	-	-
Good	D	-	-	-	-	-	itera	-	-	-	-
Good	E	-	-	-	-	-	-	-	piriman	-	-
Name	A	witʃi	witi	uwaw	yvyty	?	viti	?	wit	?	?

Afternoon A irawin irawin irawin ? ? ireawidn irawin irawin ? ?

NOTES ON COGNATE SETS

Additional notes on observed semantic shift and other comments on the cognate codings are given below.

I-A; You sg.-A; He-A; We-A; You pl.-A; They-A; They-B; They-C: Forms coded here reflect the emphatic pronouns in Wari' and Oro Win Everett and Kern (1997). The status of these forms is unclear in the other languages.

We-A: 1st person plural inclusive form used instead of exclusive form when such a distinction is made in the available materials.

They-A; They-B; They-C: 3rd person plural masculine form used when a gender distinction is made in the available materials.

Who/what-A: Wari' also uses the demonstrative *ma* 'that:prox:hearer' for certain types of who/what questions Everett and Kern (1997).

Many-A: Wanyam *mom* 'many' cognate with 'full'.

Few-C: Wari' 'several'.

One-A: Languages tend to have some variation of a one/two/few/many system. Wari' *xika pe* 'be alone/one' has not been considered here.

Two-A: Tapakura 'three'. Wari' *karakana* also means 'each other'.

Man-A: *kiritian* in Tapakura and Kitemoka is excluded since is a likely borrowing of *crisiano* from Spanish.

Human-A: In Wari' and Oro Win, cognate term has come to mean 'stranger/foreigner'. A third cognate set for human is *wari*/'*wati*, which is a first person plural inclusive (emphatic) pronoun. These terms have been treated under we-A. Tapakura, Kitemoka and Moré all use *iten* for 'person', which is cognate with 'father' in the other languages. Moré term here refers to 'spirit'.

Mother-A: Tapakura and Kitemoka *mama* 'mother' is excluded as an apparent borrowing from Spanish.

Mother-B: Wari', Oro Win, Wanyam, Torá, Cojubim, Moré 'older sister/maternal aunt'.

Animal-A: *pati* 'is 'animal' and 'fish' in Cojubim and Moré. In Oro Win the term for 'animal' is *kawta*, a compound meaning 'I will eat (it)'.

Worm-A: Cojubim *karakaw* 'snake/worm' included in snake-A.

Root-A: Wanyam, Torá, Moré, Cojubim *tuki pana* 'wood eye/seed'.

Flower-A: Wanyam *ipian pana* 'wood hair' is excluded.

Rope-A: Oro Wine 'vine'.

Rope-B: Torá 'waist cord/belt'.

Meat-A: Cojubim *nawazip* 'game meat' not included.

Blood-A: Wari' *wik* unpossessed form.

Bone-A: Wari' *at* unpossessed form.

Fat-A: Torá 'buttocks'.

Hair-A: Jarú 'feather/wing'. Wari' *tSun* unpossessed form.

Hair-B: Jarú 'beard'.

- Head-A: Oro Win *ypek* unpossessed form. Torá *upik* unpossessed form.
Ear-A: Wari' *taraP* unpossessed form.
Eye-A: The meaning seed has been removed due to polysemy with eye.
Nose-A: Wari' *ut* unpossessed form.
Tooth-A: Wari' *jat* unpossessed form.
Tongue-B: Wari' 'mouth'.
Foot-A: Torá 'shin'. Tapakura and Kitemoka 'leg'.
Foot-B: Wari' 'lower leg'.
Foot-C: Possible metathesis of foot-A. Torá *Sinjak* unpossessed form.
Fingernail-A: The form *kukumitSi* has not been included for Kitemoka since it is an apparent borrowing from Besiro Tormo (1993).
Leg-A: Cojubim and Moré 'leg' cognate with 'bone'; Moré, Cojubim and Jarú 'thigh'.
Hand-A: Cojubim 'hand' is *upek tipan* 'arm's head'. Wari' *um* unpossessed form. Kitemoka 'finger'.
Hand-B: Wari' 'arm'. Wari' *tapan* unpossessed form. Tapakura 'arm'. Kitemoka 'forearm'.
Wing-A: Wanyam, Tapakura, Kitemoka 'feather'. For Jarú cf. hair-A.
Stomach-A: Oro Win 'full stomach/satiated'. Torá also shows *tosipa* as a possessed form.
Guts-A: Kitemoka 'anus'. An additional form *anteretSe* has not been included for Kitemoka since it is an apparent borrowing from Besiro Tormo (1993).
Neck-A: Cojubim 'throat'.
Neck-B: Wari' 'throat'.
Breast-A: Tapakura word is same as 'heart', already included in heart-A. Wari' *katat* unpossessed form.
Breast-B: Wari' and Oro Win 'chest'.
Laugh-A: Cojubim 'smile'.
Hear-A: Wari' uses *tarajy* 'my ear' as a predicate.
Kill-A: Cojubim 'fight'.
Fight-A: Wari' 'angry'. Cojubim cf. kill-A.
Fight-C: Moré 'angry'.
Hit-B: Oro Win 'split'.
Cut-A: Moré 'cut with ax'. Moré and Cojubim *kisik* 'cut repeatedly' or 'cut meat' not included.
Cut-B: Cojubim 'divide'. Oro Win 'cut off'.
Cut-C: Wari' and Oro Win 'break'.
Fly-A: Oro Win 'arise'.
Come-B: Wanyam 'arrive'.
Lie-A: Jarú 'fall'. Torá *wuritimi* 'be on top of' appears to be a compound verb with *timi* 'lie' as its second element.
Lie-B: Wari' and Oro Win cognates are the plural form.
Lie-C: Wari' 'put/place'.
Sit-A: Also used as a verb 'to be' in Wari'.
Stand-A: Wari' 'stand up'.
Stand-C: Wari' 'be standing'.

Fall-B: Wari' plural form.

Say-E: Kitemoka 'sing'; *-ra* an imperative marker, cf. *ra* in Wari' and *era* in Oro Win.

Sing-A: Kitemoka cf. say-E.

Sun-D: Possibly cognate with Urupá and Jarú sun-C.

Moon-A: Oro Win 'moon' is identical to 'sun', both *fakamiP*.

Rain-A: Cojubim *ipan nari kom* 'water is falling' and Torá 'water' are excluded.

Stone-A: Tapakura 'mountain'.

Sand-A: Cojubim cf. earth-B.

Earth-A: Leigue Castedo (1957) cites *namakan* 'black clay' for Moré. Kitemoka 'clay'.

Earth-B: Cojubim 'sand'.

Sky-A: Forms are often also used for 'up high' or 'mountain'.

Red-A: Oro Win, Moré. Cojubim 'red/yellow'. Most languages appear to have a four-term color system (dark, light, warm, grue).

Red-B: Wanyam 'yellow'.

Yellow-C: Kitemoka 'green'.

Black-E: Wari' and Oro Win 'to burn'.

Night-A: Tapakura and Kitemoka appear to have an oblique prefix *pa-* attached.

Day-A: Tapakura 'wind'.

Good-B: Oro Win 'beautiful'.

Name-A: Wari' *wit* unpossessed form.

Peccary: Collared peccary (*Pecari tajacu*), known as *caititu* in Portuguese.

Deer-A: Brocket deer (*Mazama americana*), known as *veado mateiro* in Portuguese.

Deer-B: Jarú form refers to 'cougar (*puma concolor*)', known as *onça parda* in Portuguese.

Additional Phylogenetic Trees

The following phylogenetic trees are discussed in the article but have not been included as figures due to space limitations. The trees are the result of bayesian phylogenetic analyses that were run for 20,000,000 generations and sampled every 2,000 generations. All trees were produced with BEAST *v.1.8.0*. Values on the nodes are the posterior probability of the relevant clade. Branch lengths are proportional to estimated time in years. For additional information on the analyses, see section **4.2** of the article.

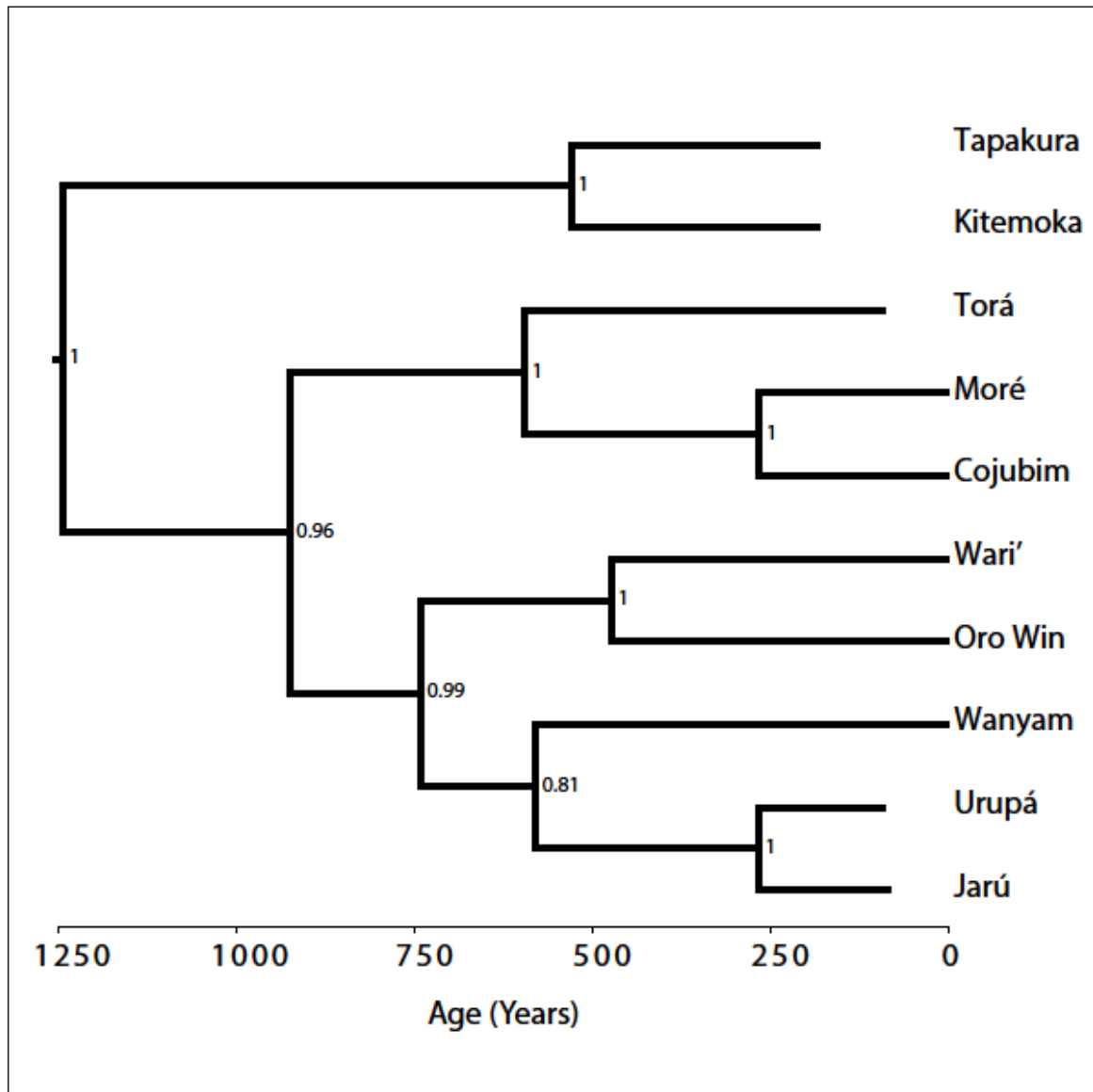


FIG. S1.—Maximum Clade Credibility Tree summary of posterior probability distribution of the relaxed clock Stochastic Dollo analysis.

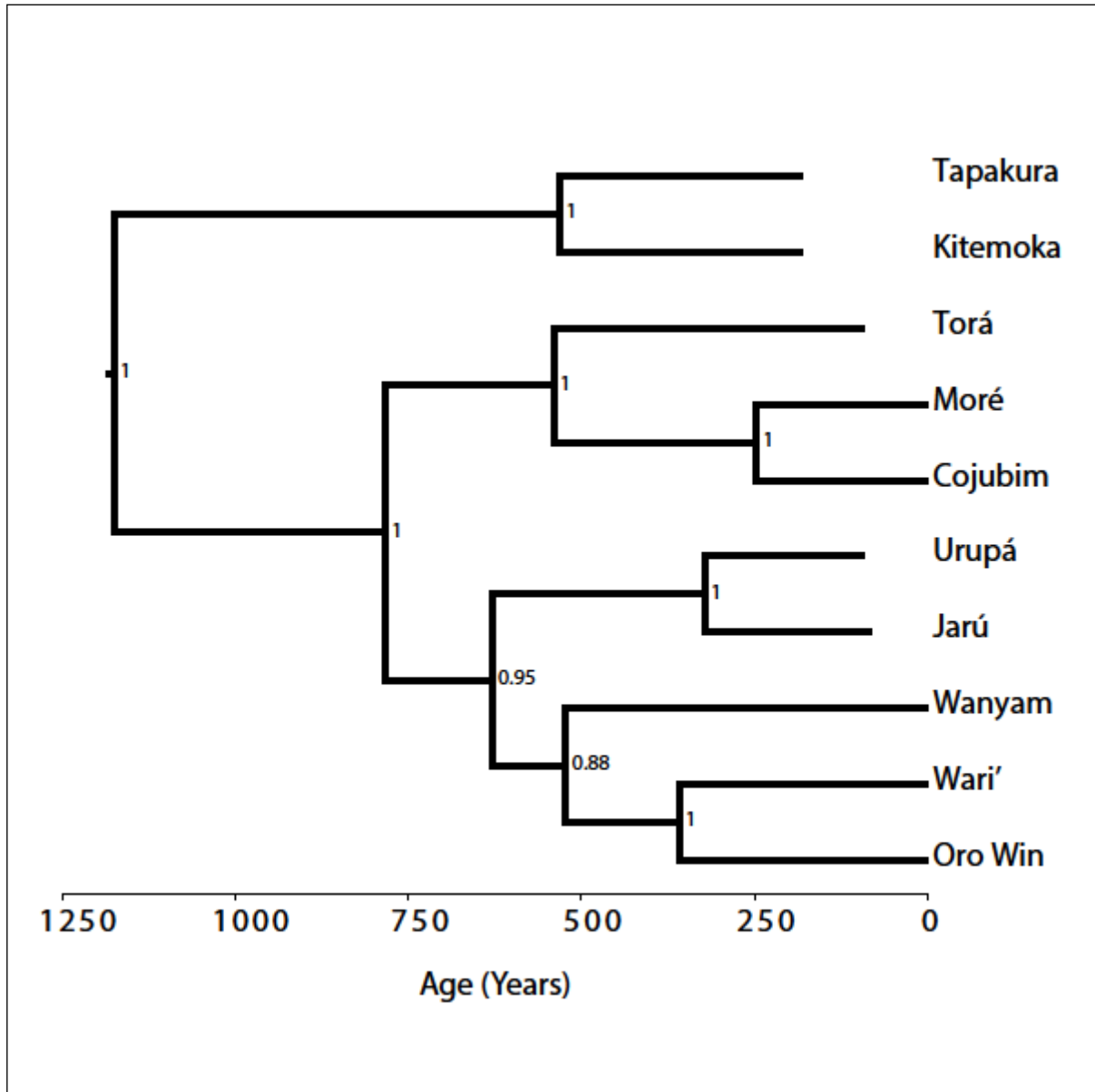


FIG. S2.—Maximum Clade Credibility Tree summary of posterior probability distribution of the strict clock CTMC analysis.

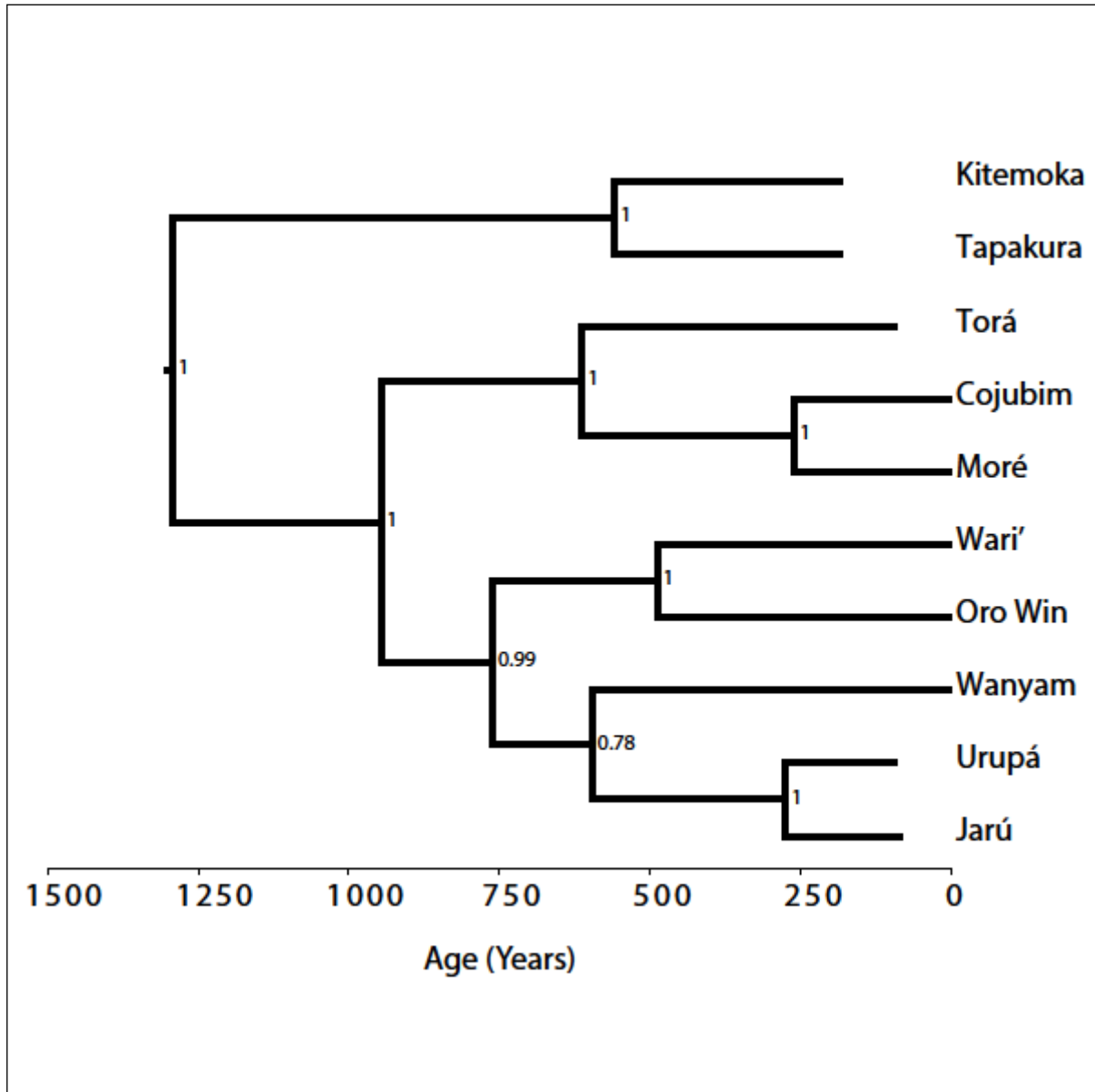


FIG. S3.—Maximum Clade Credibility Tree summary of posterior probability distribution of the strict clock Stochastic Dollo analysis.

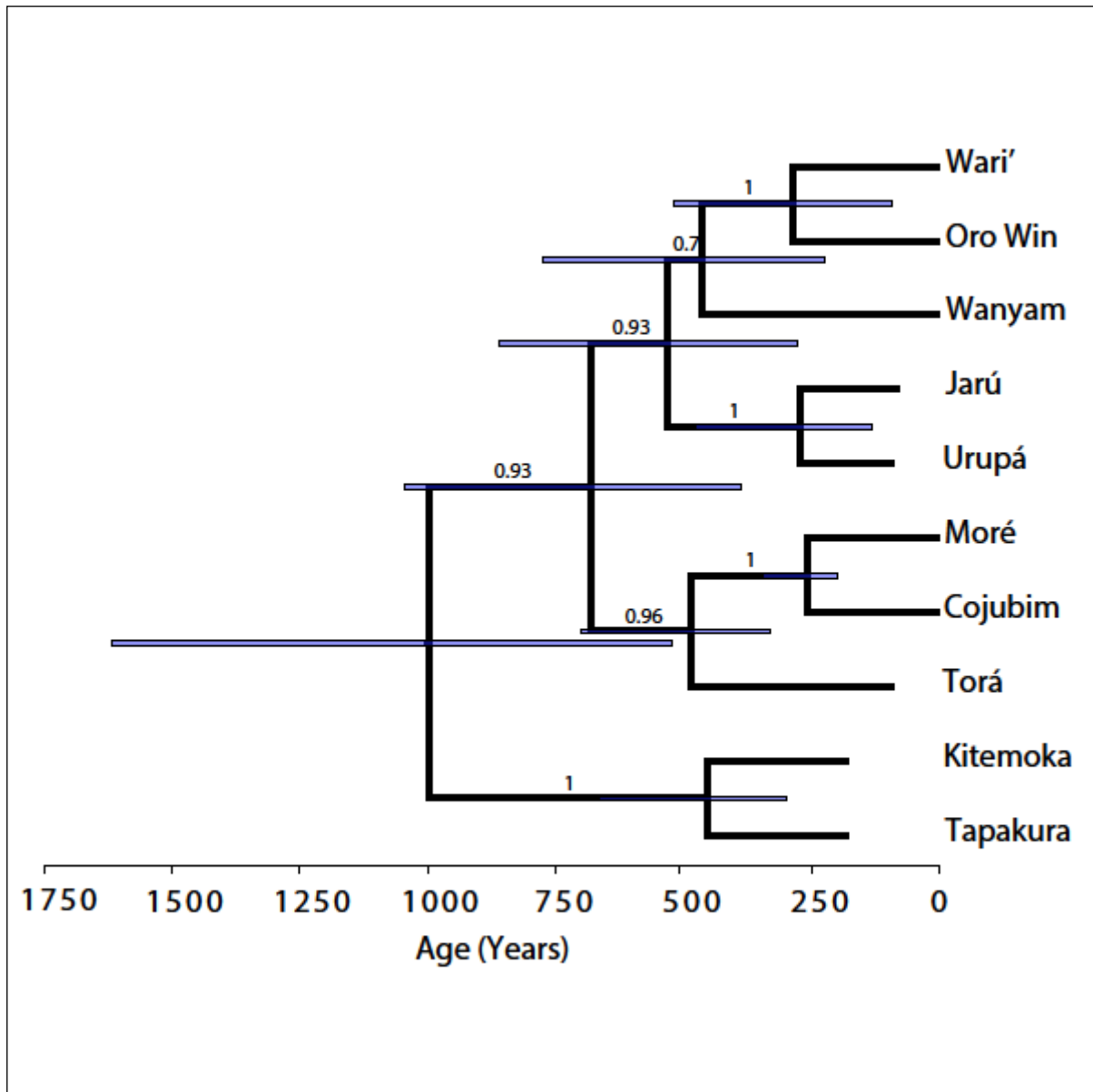


FIG. S4.—Maximum Clade Credibility Tree summary of posterior probability distribution of the relaxed clock CTMC analysis with 95% highest posterior density intervals of each node date indicated.

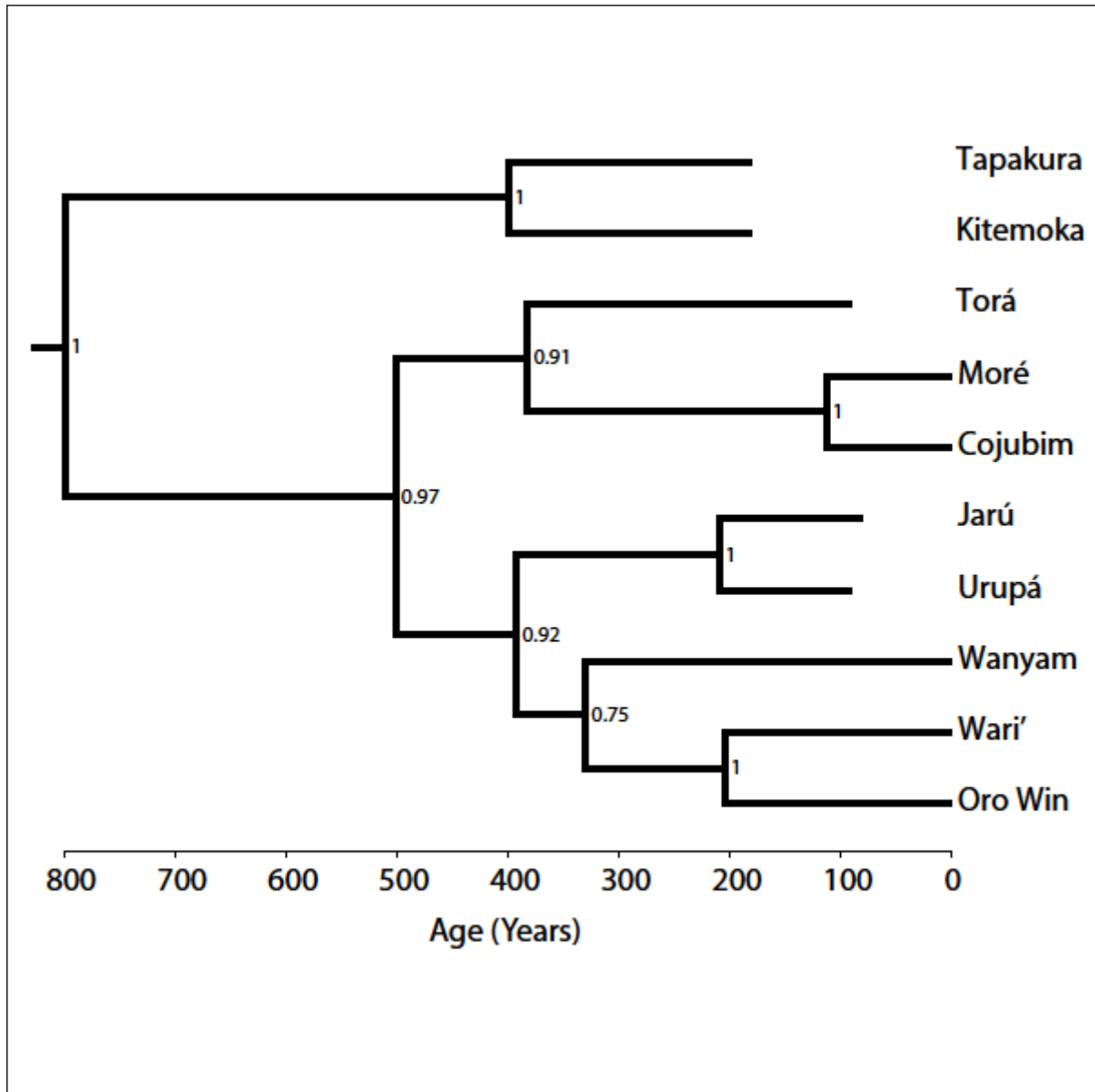


FIG. S5.—Maximum Clade Credibility Tree summary of posterior probability distribution of the relaxed clock CTMC analysis without node divergence calibrations.

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