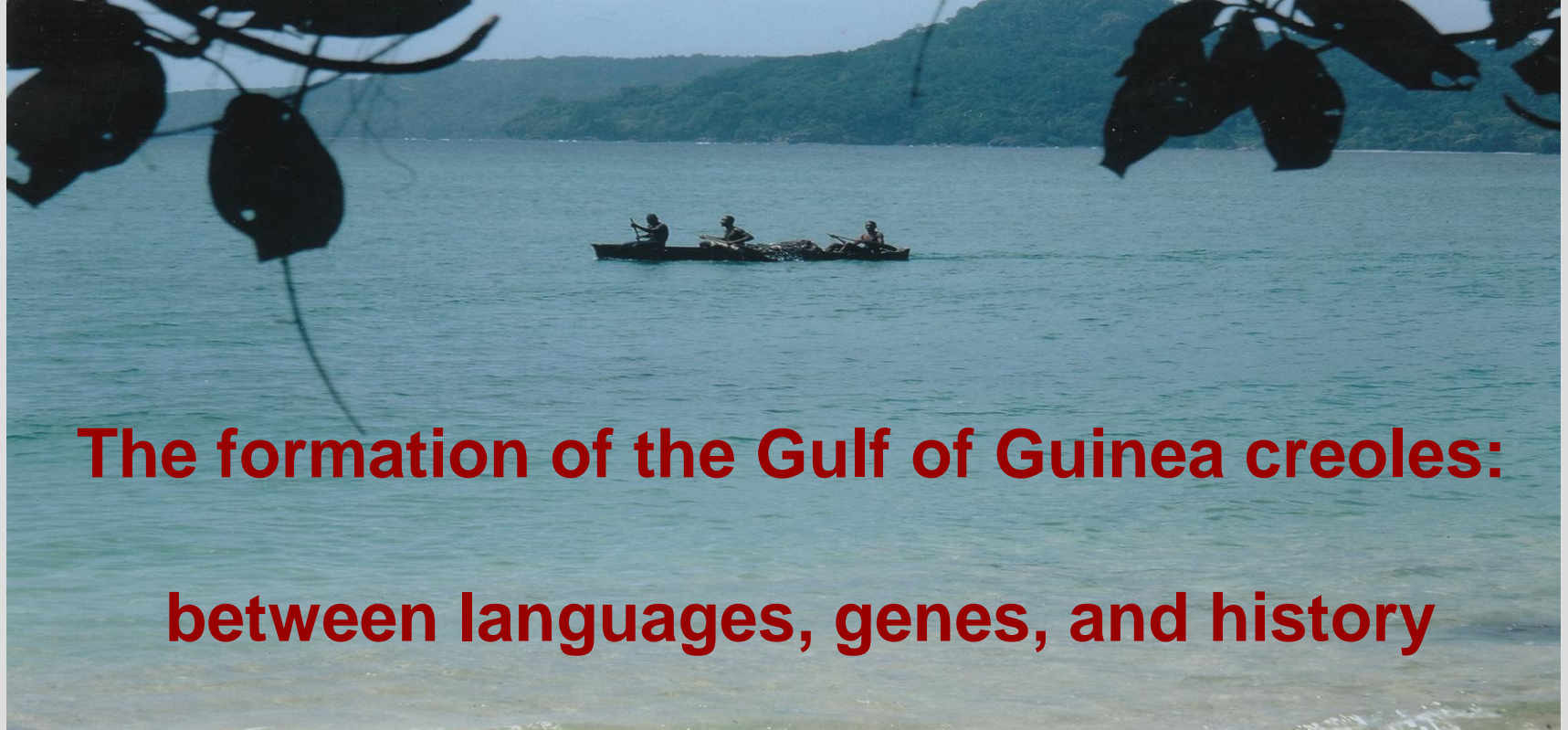


Discovering Linguistics – Linguistic Discoveries
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**The formation of the Gulf of Guinea creoles:
between languages, genes, and history**

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Goals

- To show that the four Portuguese-related Gulf of Guinea Creoles (GGC) spread from a single proto-language
- To argue that this proto-language shows a founder effect from southern Nigerian populations and languages based on evidence from:
 - History
 - Linguistics
 - Genetics



Gulf of Guinea



Lung'le

Príncipe

Santome

São Tomé

Angolar

Annobón

Fa d'Ambô

The Gulf of Guinea Islands

- Settlement

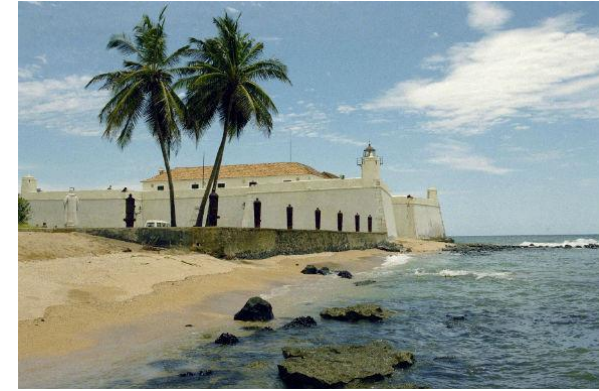
- São Tomé: 1493
- Príncipe: ±1500 (from São Tomé)
- Annobón: ±1550 (from São Tomé)

- Settlers

- Portuguese men (convicts, clergy members, soldiers, etc.)
- Jewish orphans under 8 years old
- Large numbers of continental Africans (predominantly slaves)



Language contact results in the creation of a new language by the slave population through the standard **pidgin-creole cycle**



Fortress of São Sebastião, São Tomé

Settlement and slave trade areas

1. Homestead society (aprox. 1493-1515)
→ predominance of the Niger Delta (southern Nigeria) slave trade
2. Plantation society (aprox. 1515-1600)
→ predominance of Bantu slave trade areas, corresponding roughly to the Congo and Angola

(Caldeira 2008; Pereira 1506; Ryder 1969; Teixeira da Mota 1976; Thornton 1992; Vogt 1973, a.o.)

Sugar mills on São Tomé - 16th century

Year	1517	1522	1550	1567	1580
Nr.	2/3	6	60	120	70





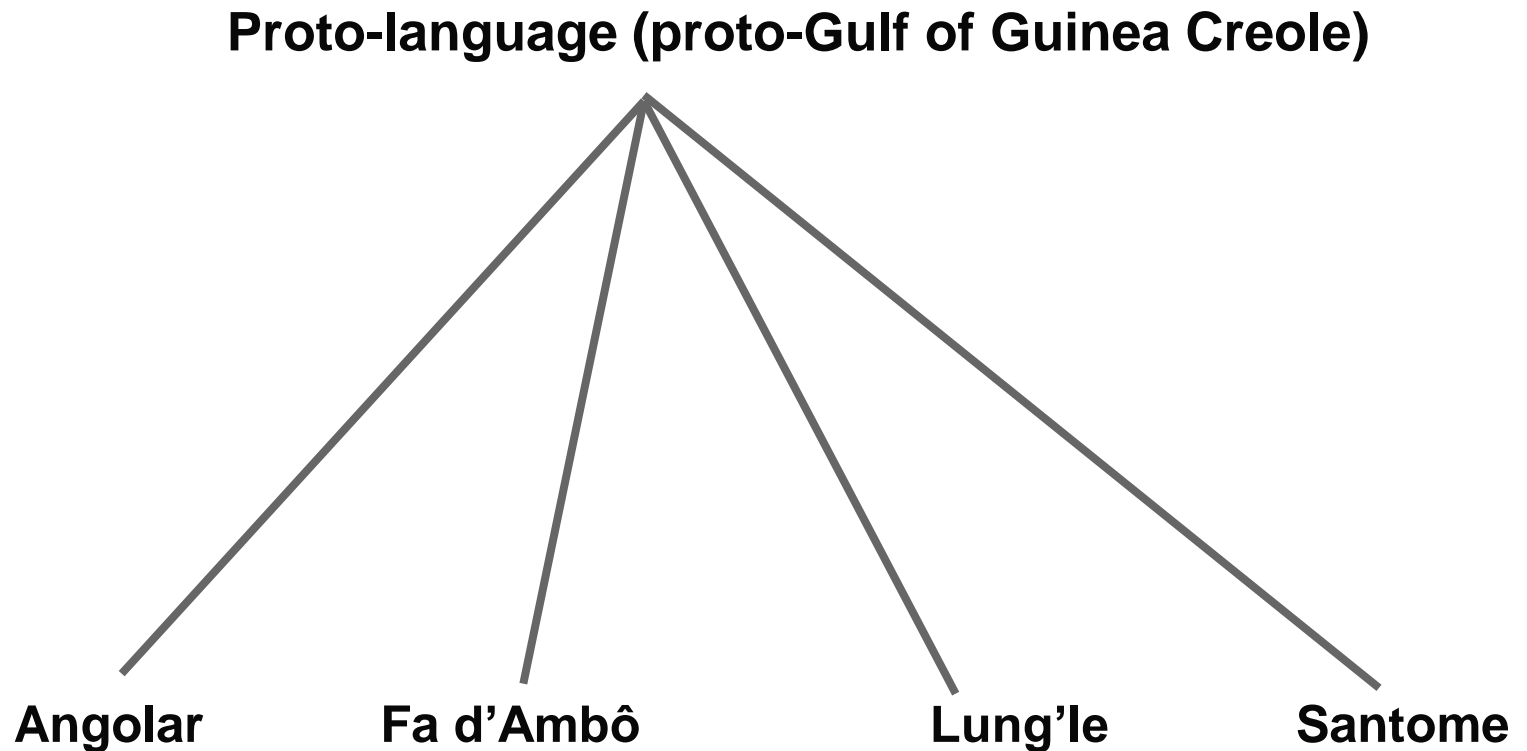
Linguistic founder effect

- To what extent did the languages spoken in these two slave trade areas affect the formation of the creole language on São Tomé?



- The linguistic features of the GGCs show that the languages of southern Nigeria were crucial in the formation of the proto-language that spread from the island of São Tomé in the 16th century

Especciation of the proto-language (16th century)



Creoles and genetic classification

- Creole grammars are a compromise between grammars in contact and innnovation
- Creoles derive most lexicon from one source (lexifier or superstrate language)
- The Comparative Method
 - Cognates
 - Regular sound correspondences



- Creoles constitute young branches of their lexifier language

Examples of cognates and regular sound changes

Modern Portuguese	Santome	Sound change	Meaning
chorar	sola	(t)ʃ > s	to cry
chave	sabi	(t)ʃ > s	key
chuva	suba	(t)ʃ > s	rain
dinheiro	djêlu	r > l	money
febre	feble	r > l	fever
rir	li	r > l	to laugh
pai	pe	aj > ε	father
vai	be	aj > ε	to go
barriga > *baiga	bega	ai > ε	belly

Lexical layers in the GGCs

- Portuguese lexicon (approx. 90%):
 - shared by the four GGC → primary layer
- Nigerian lexicon (Edoid):
 - frequently shared by all or several GGC → primary layer
- Bantu lexicon (Kongo, Kimbundu):
 - not shared and almost absent from Lung'le → secondary layer

Portuguese-related cognates

ST	LU	FdA	ANG	Meaning	Portuguese
<i>sangi</i>	<i>isengi</i>	<i>sangi</i>	<i>thangi</i>	blood	sangue
<i>ũa</i>	<i>ũa</i>	<i>wan</i>	<i>ũa</i>	one	uma
<i>kôlê</i>	<i>kwê</i>	<i>khôlê</i>	<i>kôlê</i>	to run	correr
<i>alê</i>	<i>arê</i>	<i>alê</i>	<i>alê</i>	king	el-rei (archaic)
<i>bluku</i>	<i>buuku</i>	<i>buuku</i>	<i>buuku</i>	mean	bronco(?)
<i>saya</i>	<i>saa</i>	<i>saa</i>	<i>thaa</i>	to pull	salhar (archaic)

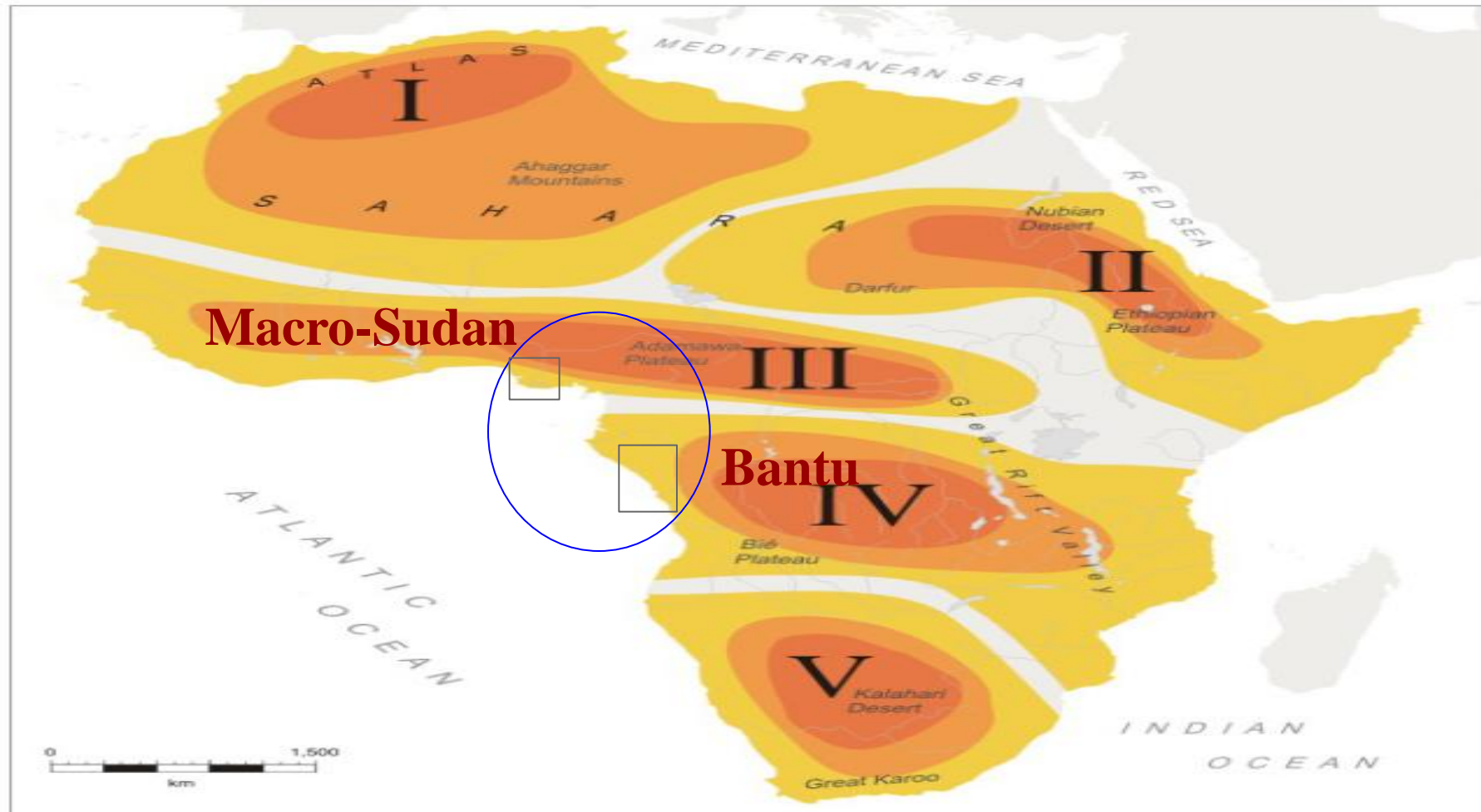
Edo-related cognates

ST	LU	FdA	ANG	meaning	Edo etymon
<i>bôbô</i>	<i>bôbô</i>	<i>bôbô</i>	<i>bôbô</i>	to carry a child on the back	<i>uovo</i>
<i>idu</i>	<i>idu</i>	<i>idu</i>	<i>iru</i>	louse	<i>iru</i>
<i>izê</i>	<i>izê</i>	<i>inze</i>	<i>idhê</i>	crayfish	<i>ize</i>
<i>lêlê</i>	<i>lêlê</i>	<i>lêê</i>	<i>lêlê</i>	to follow, along	<i>lele</i>
<i>ubwê</i>	<i>igbe</i>	<i>ôgê</i>	<i>ongê</i>	body	<i>egbe</i>
<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	impersonal pronoun	<i>a</i>

Bantu lexicon in Angolar

ST	LU	FdA	ANG	Mean	PORT.	KIMBUNDU
<i>labu</i>	<i>urabu</i>	<i>labu</i>	<i>nkila</i>	tail	<i>rabo</i>	<i>mukila</i>
<i>pixi</i>	<i>pexi</i>	<i>pixi</i>	<i>kikiê</i>	fish	<i>peixe</i>	<i>kikêle</i>
<i>nôtxi</i>	<i>unôtxi</i>	<i>nôtxi</i>	<i>n'thuku</i>	night	<i>noite</i>	<i>usuku</i>
<i>xinku</i>	<i>xinku</i>	<i>xinku</i>	<i>tano</i>	five	<i>cinco</i>	<i>tanu</i>
<i>vwa</i>	<i>vwa</i>	<i>vôa~va</i>	<i>pupuka</i>	to fly	<i>voar</i>	<i>pupuluka</i>

Typological features

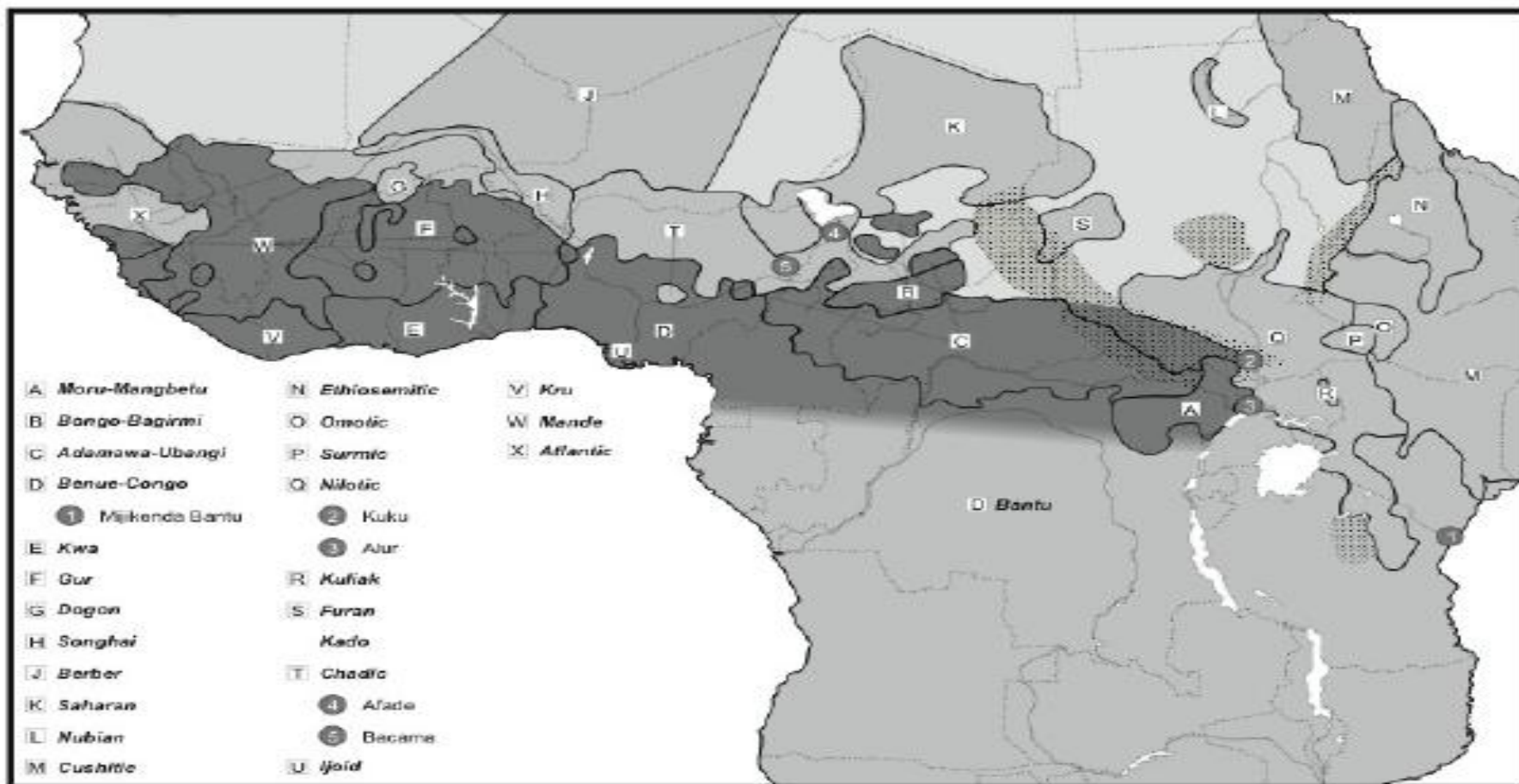


Labial velars /kp/ e /gb/

ST	LU	FdA	ANG	Edo	meaning
<i>kwaku</i>	<i>ukpaku</i>	?	?	<i>ukpakon</i>	traditional tooth brush
<i>kwali</i>	<i>ukperi</i>	<i>okwali</i>	?	?	basket
<i>ukwê</i>	<i>ikpe</i>	?	<i>ikwe~inkwe</i>	<i>ikpe</i>	seed, grain
<i>ubwami</i>	<i>ugbami</i>	<i>ogomu</i>	?	<i>agbanmwên</i>	chin
<i>ubwa</i>	<i>ugba</i>	?	?	<i>ogba</i>	fence
<i>ubwê</i>	<i>igbê</i>	<i>ôgê</i>	<i>ôngê</i>	<i>egbe</i>	body



Labial-velars in Africa



(Maddieson 2005)

Body reflexives

- (1) Ê *mata ubwê dê* (Santome)
(2) Ê *mata igbê sê* (Lung'ie)
(3) Ê *mata ôgê dêli* (Fa d'Ambô)
(4) Ê *mata ôngê rê* (Angolar)
3SG kill body POSS
'S/he committed suicide.'

- (5) Ò gbé-**ègbé** èré ruà (Edo)
3SG kill-body POSS PART
'S/he committed suicide.'

NP final interrogative (where is/are ...?)

- (1) *Inen bô?* (Santome)
3PL INT
'Where are they?'
- (2) *Kasô tê ba?* (Lung'le)
dog POSS INT
'Where is your dog?'
- (3) *Bo bô?* (Fa d'Ambô)
2SG INT
'Where are you?'
- (4) *Lêlu ô bô?* (Angolar)
money POSS INT
'Where is your money?'
- (5) *Rèn vbòó?* ([vòó]) (Edo)
3SG INT
'Where is s/he?'

Serial verb constructions

Directional

- (1) Ê **kôlê** **ba** *ke* (Santome)
(2) Ê **kwê** **we** *kaxi* (Lung'le)
(3) Ê **khôlê** **ba** *khadji* (Fa d'Ambô)
(4) Ê **kôlê** **ba** *kai* (Angolar)

3SG run go house
'S/he ran home.'

- (5) Íran **rhùlé** **làá** òwá (Edo)

3PL ran enter house
'They ran into the house.'

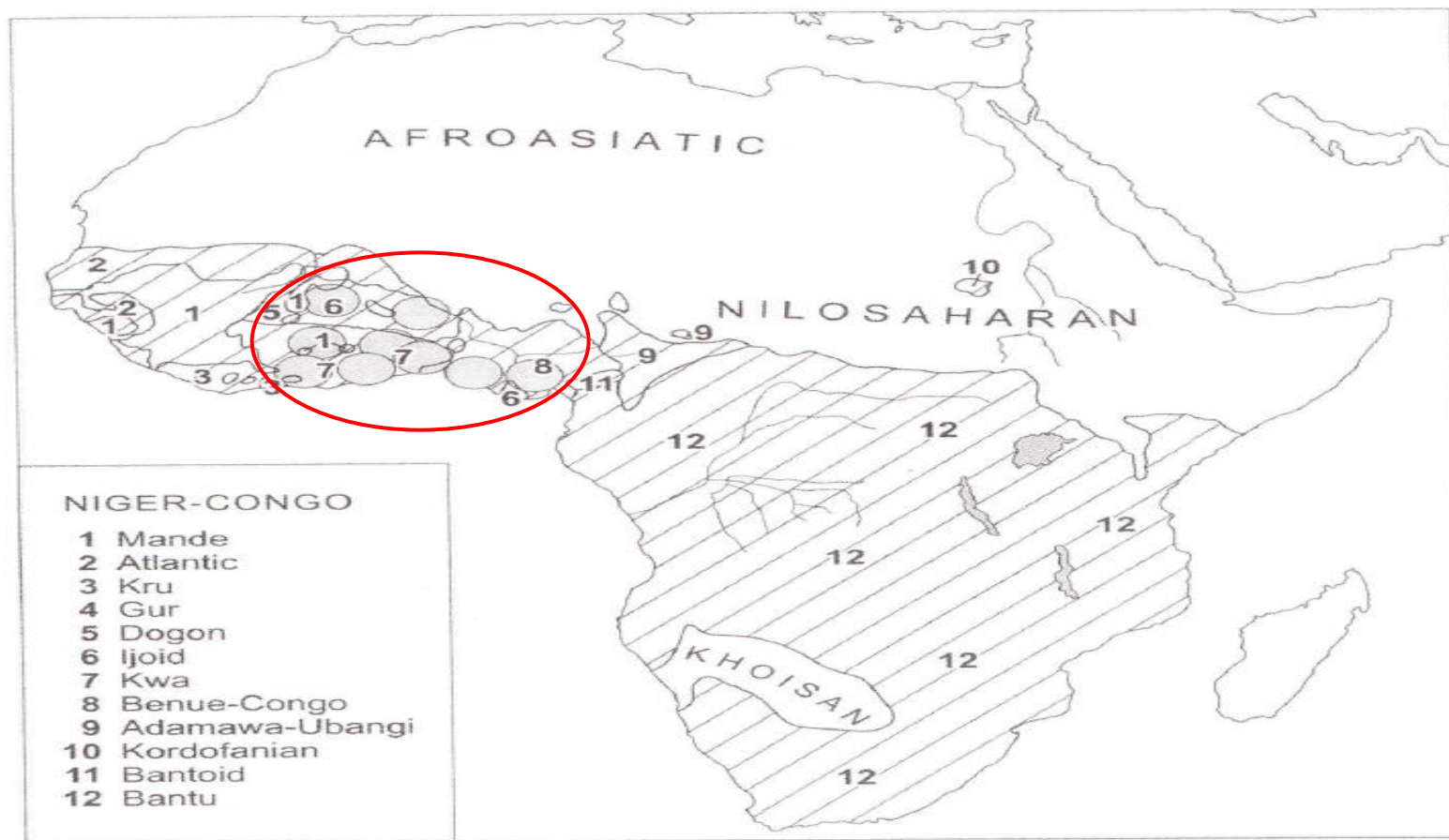
Serial verb constructions

Comitative

- (1) *Zon na lèlè Maya xê fa.* (Santome)
Ìvié má lèlé Òdúwà kpàá. (Edo)
PN NEG follow PN leave NEG
'Zon/Ìvié didn't leave in Maya/Òdúwà's company.'

- (2) *Inen zunta kume lôsô.* (Santome)
Íràn kùgbé-rè rrí izè. (Edo)
3PL gather eat rice
'They ate rice together.'

Verb serialization in Africa



(Dimmendaal 2001: 383)

Summary

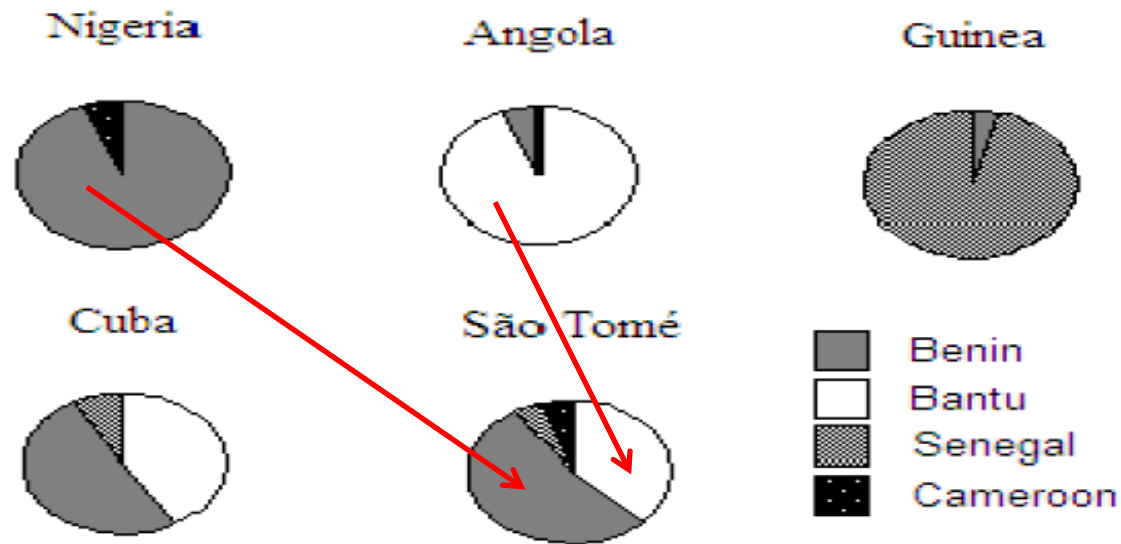
- The numerous lexical, phonological, and syntactic resemblances between the four GGCs, either directly or through historical reconstruction, show their genetic relatedness
- The GGCs share many lexical and typological features with southern Nigerian languages, in particular with Edoid languages



- **Correlation between linguistic features and the predominant slave population during the homestead society**

Population genetics

- Predominantly African genetic contribution
- Surprisingly high of the Nigerian genotype on the population of São Tomé



Coelho *et al.* 2008: Comparison of the distribution of betaglobine S haplotypes

The puzzle of the Angolares

- Main hypothesis: The Angolares are the descendants of the numerous slaves that ran away from the plantation system from the 16th century on



- The Angolares are therefore expected to be genetically similar to the remaining population of São Tomé.

Structural correspondence: Angolar and Santome

- (1) *n ga fa ku ê, si n tê tempu* (Angolar)
n ga fla ku ê, xi n tê tempu (Santome)
1SG FUT talk with 3SG if 1SG have time
'I will speak to him, if I have time'

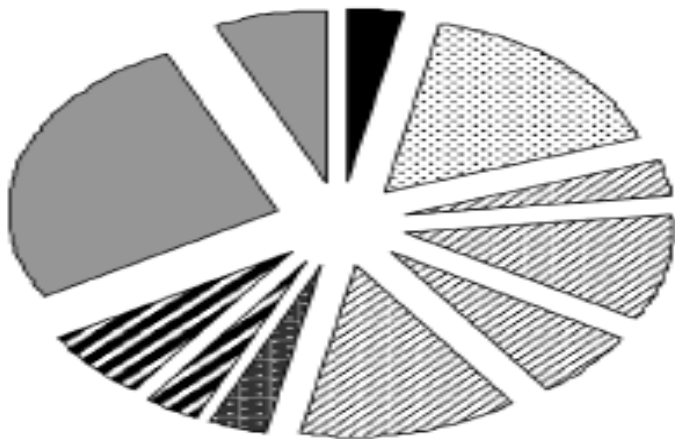
- (2) *a na ka bendê kikiê nge wa* (Angolar)
a na ka bendê pixi nai fa (Santome)
IMP NEG HAB sell fish here NEG
'Fish is not sold here'

DNA of the Angolares

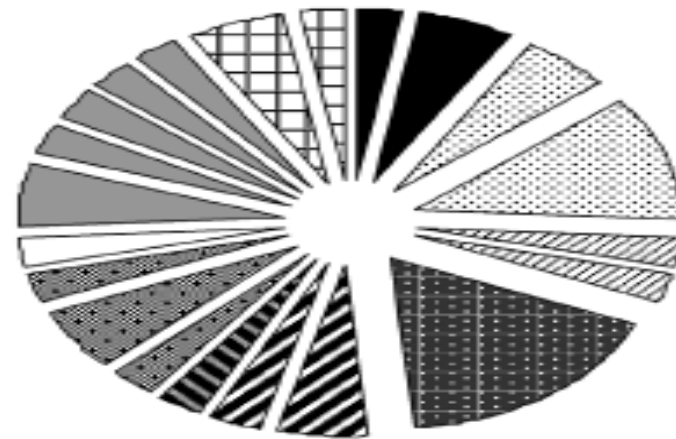
- The Angolares are genetically less diversified than the remaining population of São Tomé
 - Y chromosome: high level of differentiation from the rest of the island, showing evidence of ancestral lineages related to the Bantus of the forest (pygmees gene flow)
 - Mitochondrial DNA (maternal inheritance) contributes genetic diversification to the Angolares

(Coelho *et al.* 2008)

Angolares

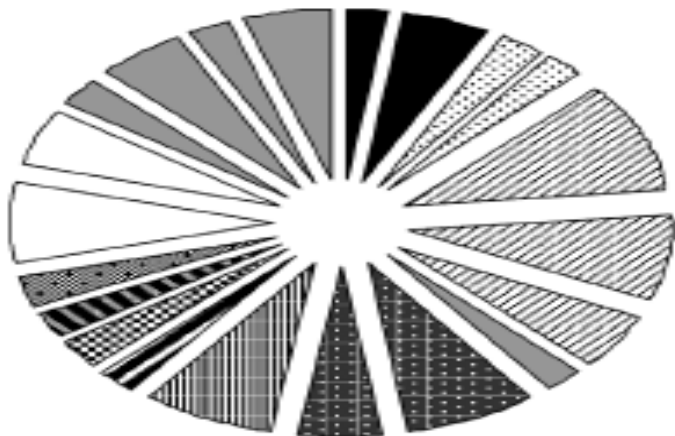


Forros

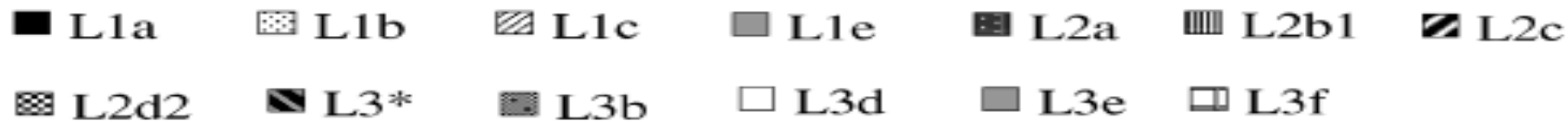
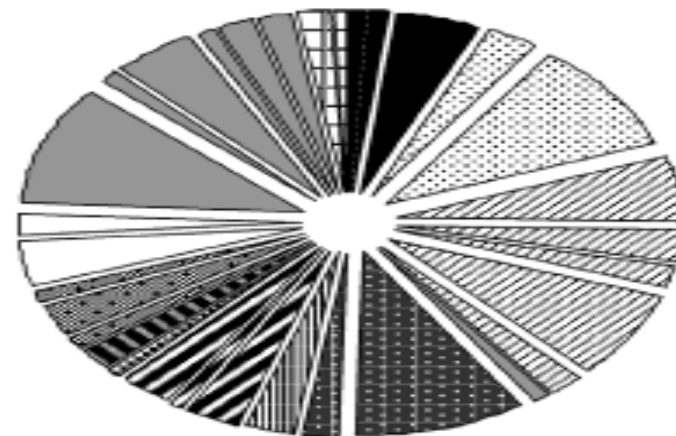


HAPLOGROUP PROFILES
(Tomás *et al.* 2003)

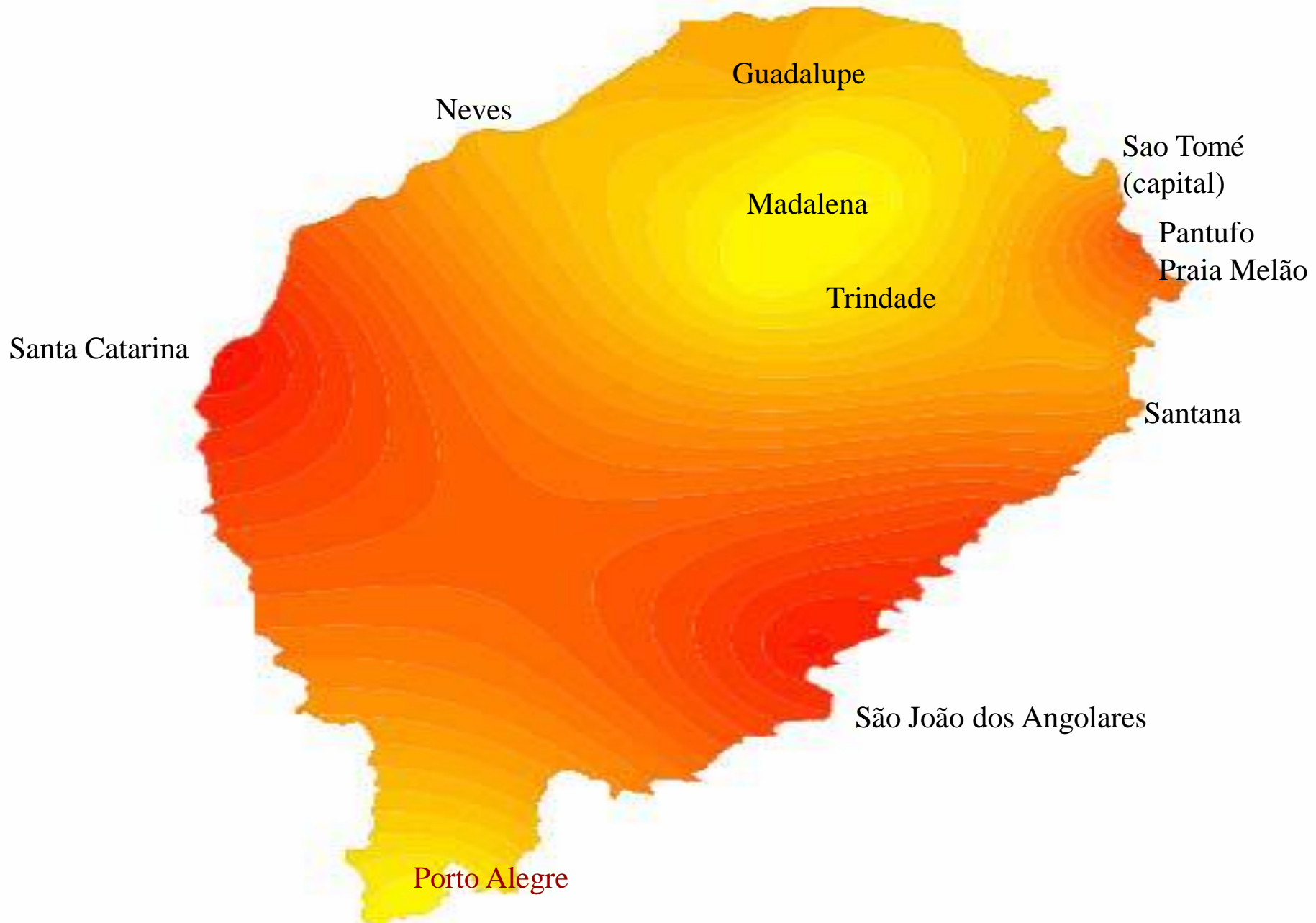
Tongas



São Tomé

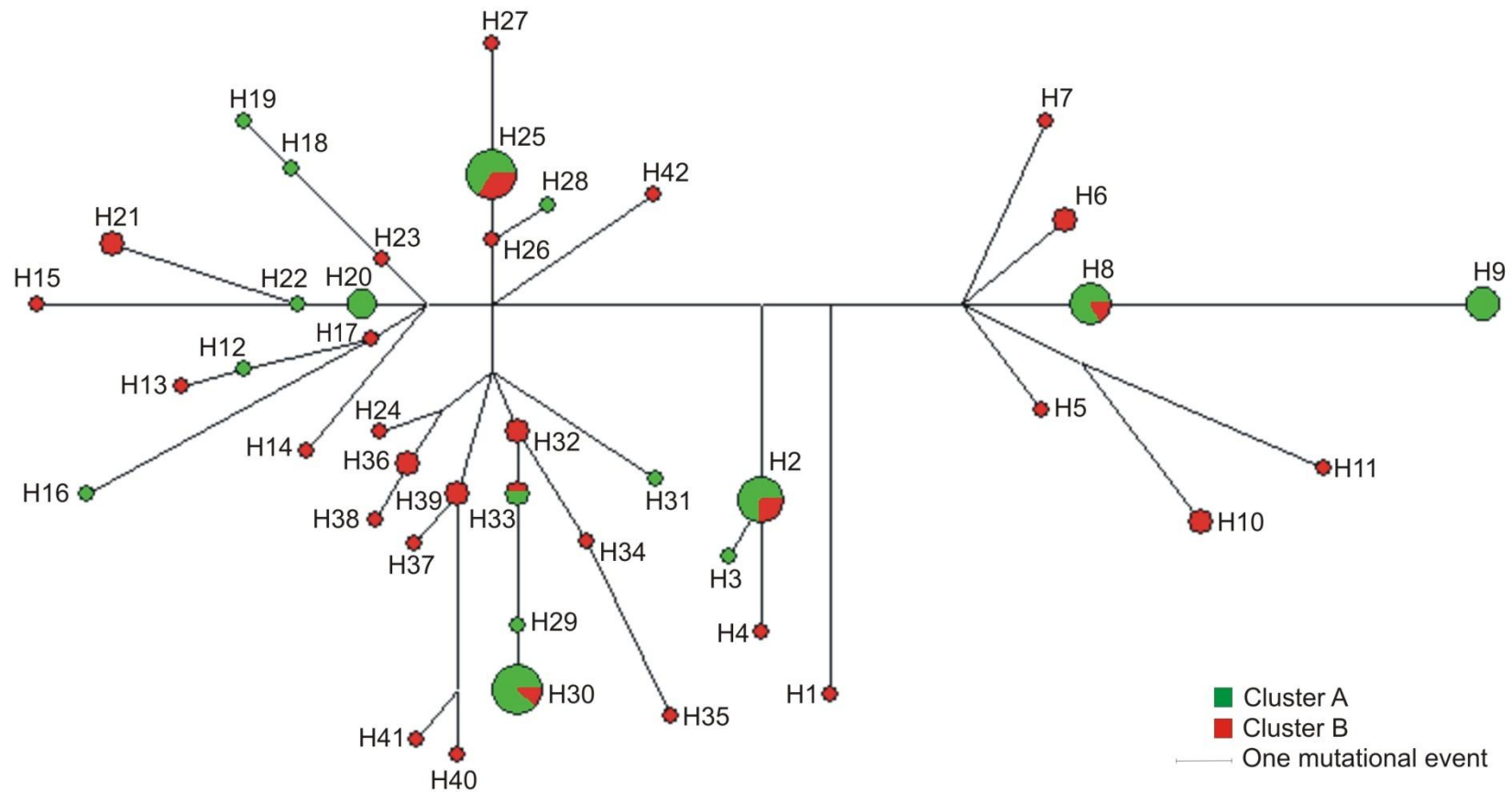


ISLAND OF SÃO TOMÉ



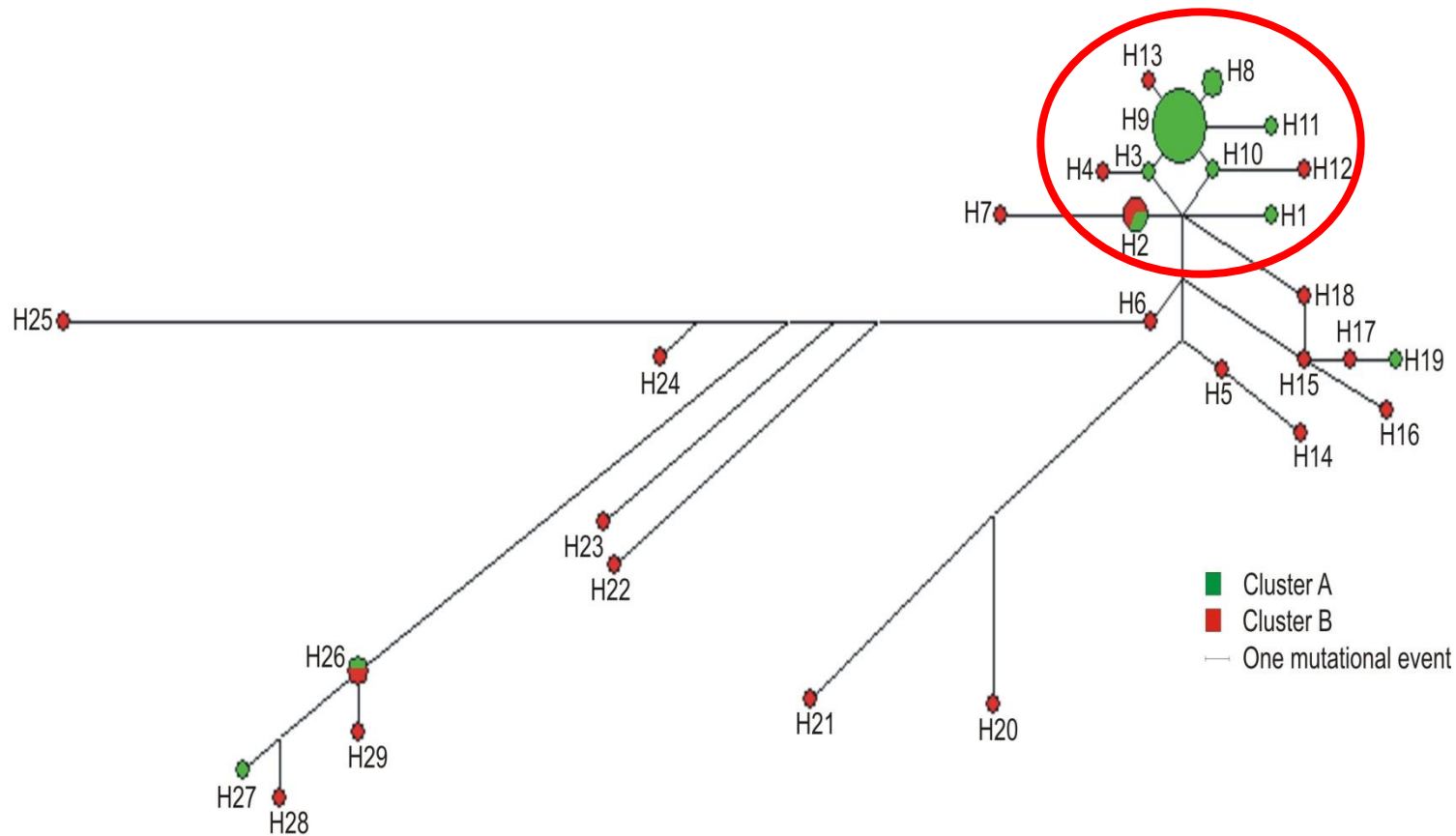
Coelho *et al.* (2008): Genetic differentiation on São Tomé based on a random analysis

Female genetic differentiation: Angolares vs. Population of S. Tomé



Coelho *et al.* (2008): mtDNA sequence variation

Male genetic differentiation: Angolares vs. Population of S. Tomé



Coelho *et al.* (2008): Y-chromosome haplotype diversity

The Angolares: genes and language

1. The Angolares are not a pre-European population and do not speak a Bantu language (against some previous misinformed claims)
2. The Angolares are likely to be the result of a bottleneck event, i.e. a close-knit masculine runaway Bantu group that survived outside the plantation system
3. Historically documented abduction of (creole) women from the plantations may have contributed greater genetic diversification of this group

The Angolares: new questions

4. Hypotheses to be further tested wrt the linguistic and genetic differentiation of Angolar:

- 4.1. Did the original runaway group shift from a Bantu language to Creole and the Bantu features are a case of retention?
- 4.2. Did the original runaway group speak a Creole that borrowed Bantu features (in particular, lexicon and phonology)?
- 4.3. How much convergence occurred between Angolar and Santome over the centuries?

Conclusions

- The four GGC descend from a single proto-language that resulted from the contact between middle/classic Portuguese and southern Nigerian languages, during the homestead society (= fast creolization)
- The founder effect of this African layer is corroborated by evidence from different disciplines: history, linguistics, genetics
- The Bantu layer is mostly the result of secondary contact, but left a substantial lexical and genetic imprint, in particular on the Angolares

DÊSU-PAGA!
(Obrigado)

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