




Language Histories in Island Melanesia



Michael Dunn, Eva Lindström, Ger Reesink
Pioneers of Island Melanesia project

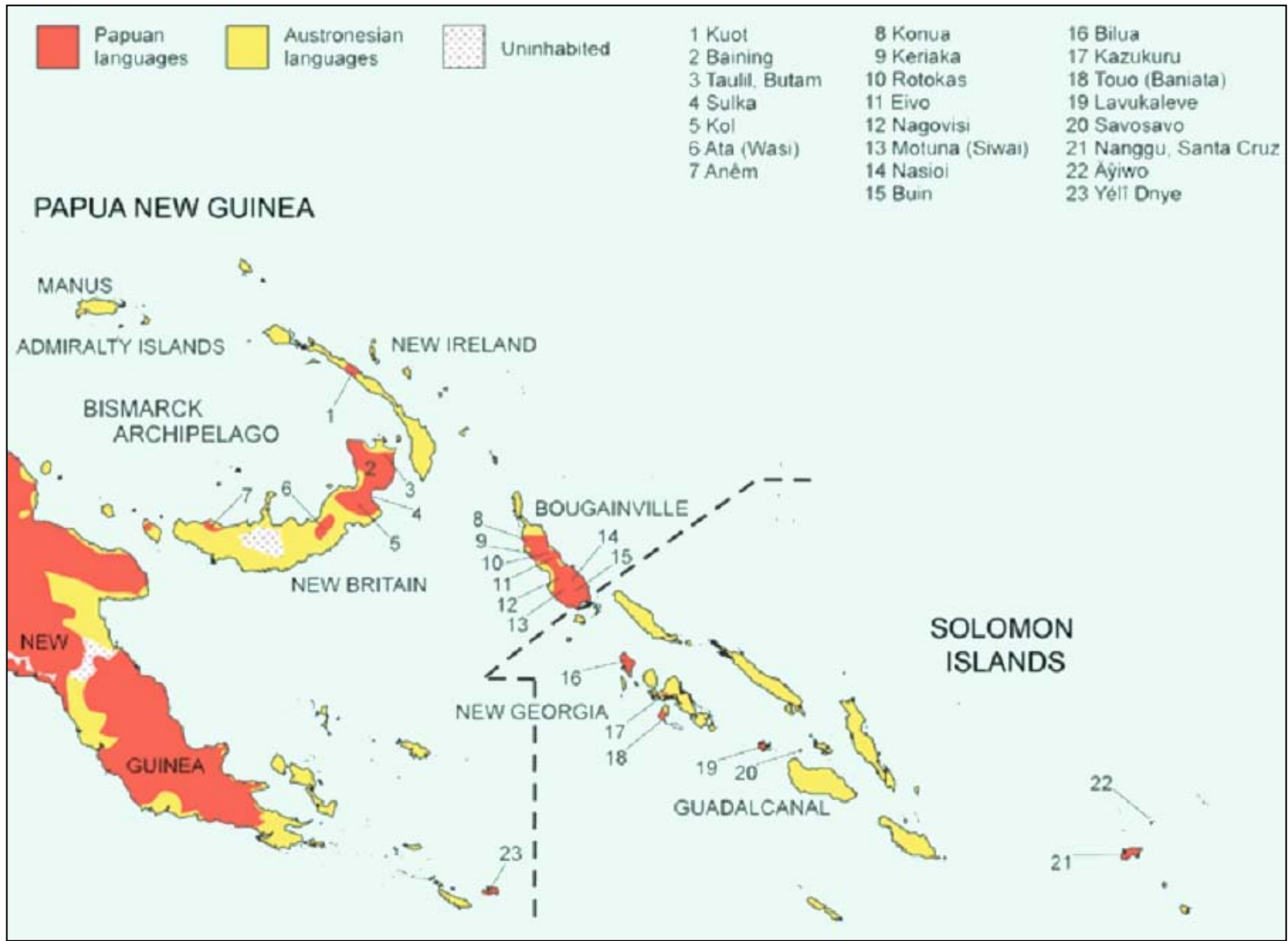
ESF-CNRS Workshop on languages and genes:
recent work and emergent results
Aussois 22-25 September 2005

This talk

-  Eva Lindström (Stockholm Uni)
Background
-  Michael Dunn (MPI, Nijmegen)
Investigating language relations with
statistical methods
-  Ger Reesink (Radboud Uni, Leiden Uni)
And the genetics?

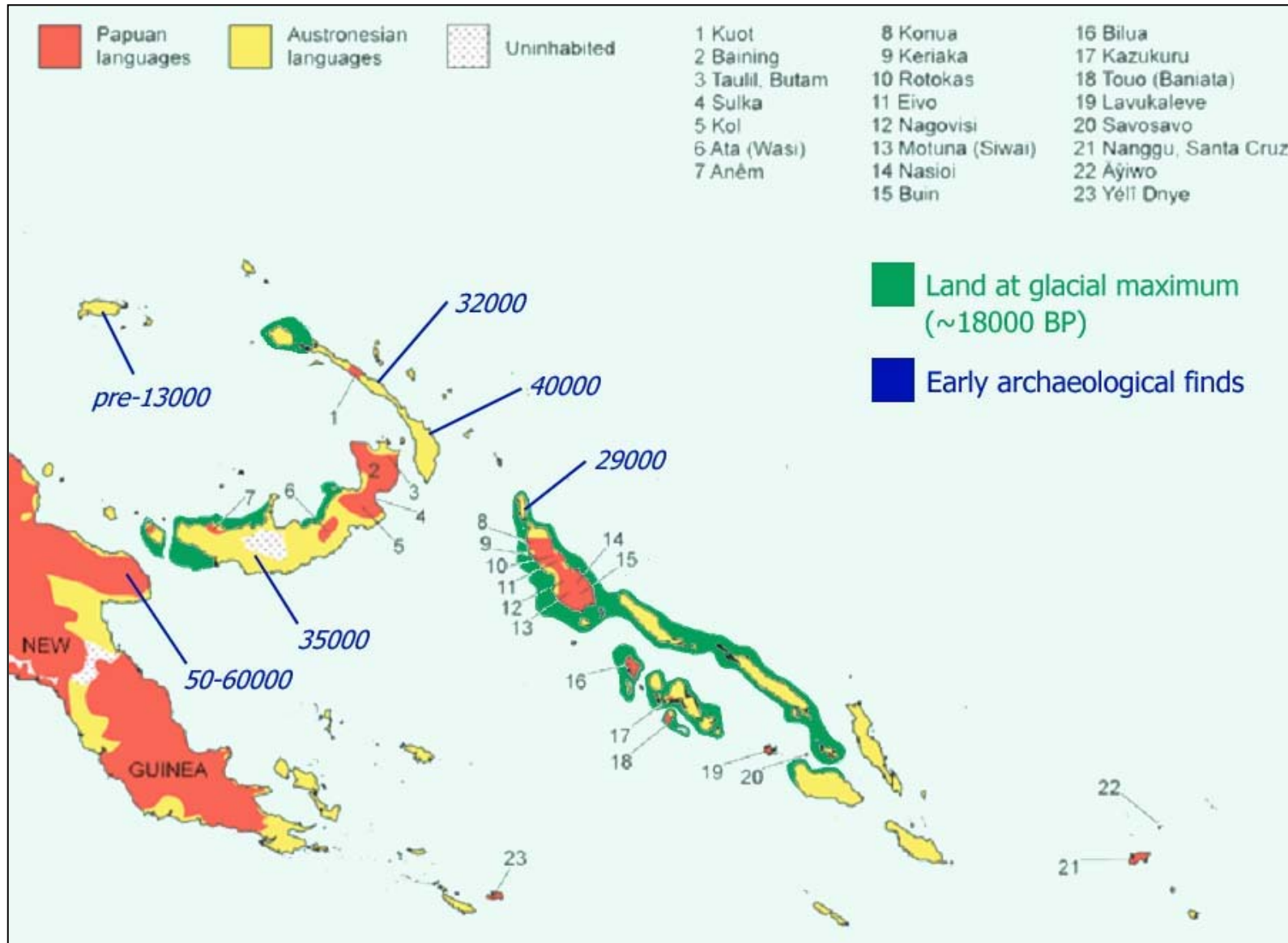


Pioneers of Island Melanesia





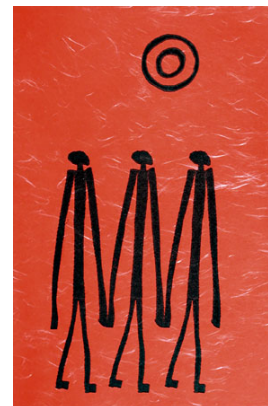
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So, minimally two strata

- ancient (>40.000 years) = “Papuan”
- more recent (3,500 years) = Austronesian

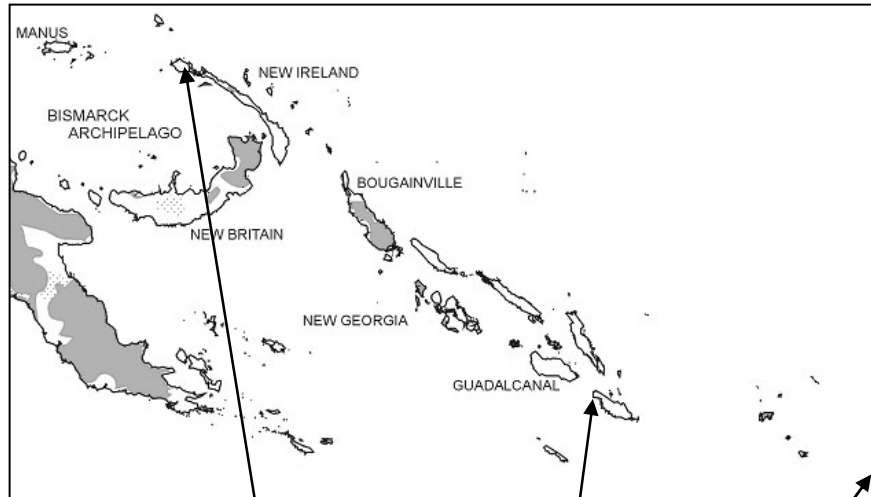
... but probably multiple arrivals in ancient times



Austronesian, Papuan, and the Comparative Method (CM)

- the CM is a time-honoured method for establishing linguistic relatedness
- it proceeds by establishing cognate forms between two languages presumed to be related
- differences have to be systematic: sound correspondences
- branches and sub-branches in the family tree are based on shared innovations

Reconstruction (I)



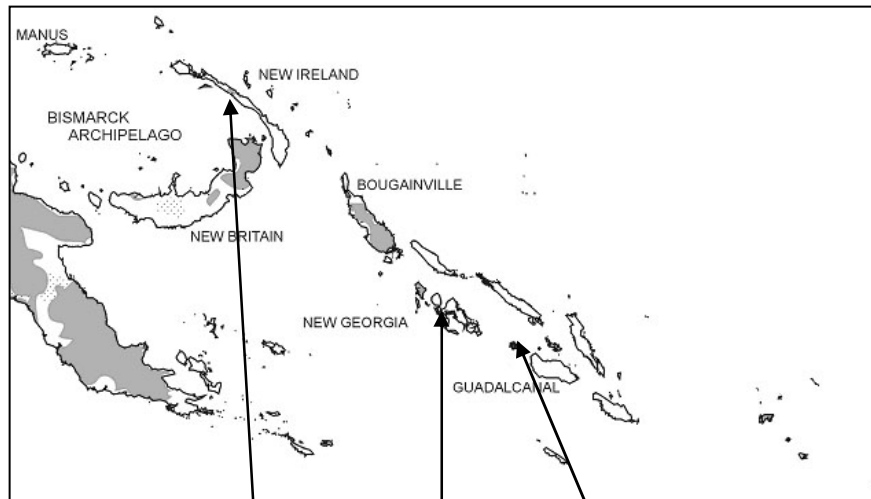
AN: allows for reconstruction because there are enough related forms retaining the same (or closely related) meanings

| | Lavongai | Arosi | Anuta |
|-------|------------|---------|--------|
| 'eye' | mata, mete | mā | mata |
| 'die' | mat | mae | mate |
| 'ear' | talinga | kariŋa- | tariŋa |

| | |
|---|---------|
| → | *mata |
| → | *mat(e) |
| → | *taRiŋa |

| |
|------------|
| POc |
| *maCa |
| *m-aCay |
| *Caliŋa |

Reconstruction (II)



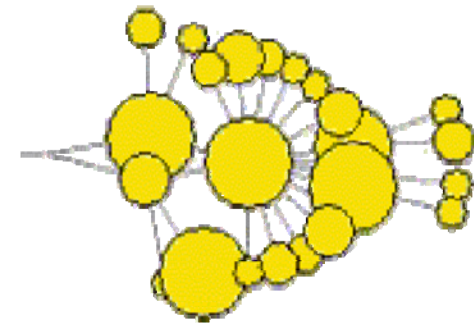
| | Kuot | Touo | Lavukaleve |
|-------|-------------|-------------|-------------------|
| 'eye' | irəma | bero | lemi |
| 'die' | -parə | yuzə | kiu |
| 'ear' | kikinəm | ogoto | ho'vul |

- Papuan: too little shared vocabulary
- few similar forms meaning the same thing
 - no sound correspondences
 - no reconstruction of ancestral forms
 - no family trees

| | |
|---|-----|
| → | *?? |
| → | *?? |
| → | *?? |

So, CM for Austronesian ...

- the Austronesian languages form a *family*, the result of relatively recent dispersal
- CM is the one universally accepted method for determining linguistic relatedness
- because of the CM, we know that *five* and *panc* are cognate, while *day* and *dia* are not

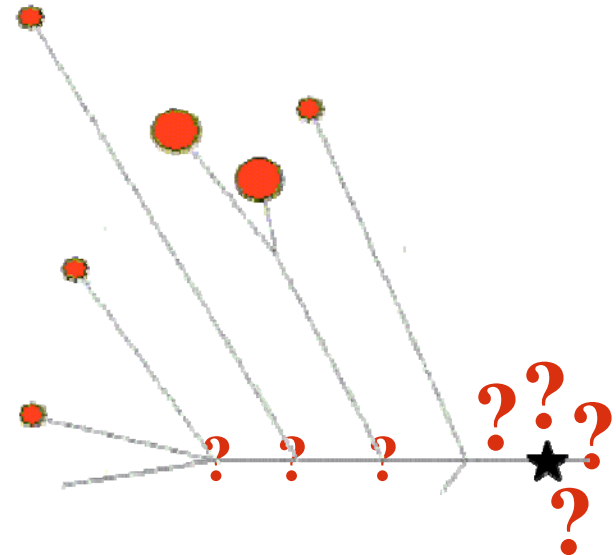


... but no CM for Papuan

no telling beyond ~8000 years

- attrition: sound changes and gradual vocabulary replacement obscure any original correspondences
- accretion: lexical loans and contact-induced structural changes give similarities between unrelated languages

but some lower-level families can be seen, e.g. south Bougainville



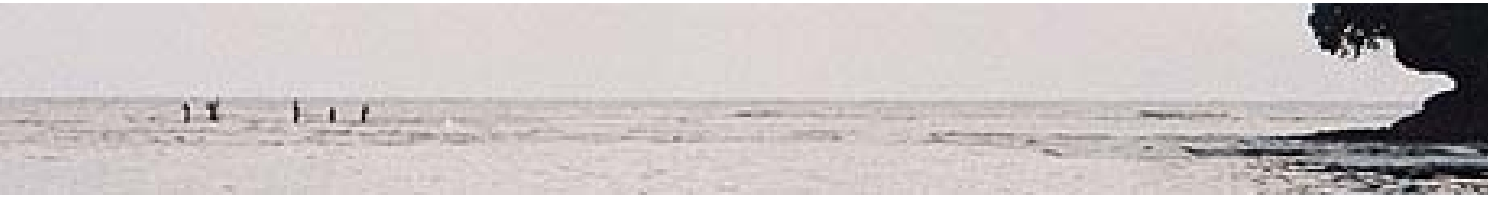
So, how to investigate Papuan?

There *are* indications of ancient relations among Papuan languages in Island Melanesia.

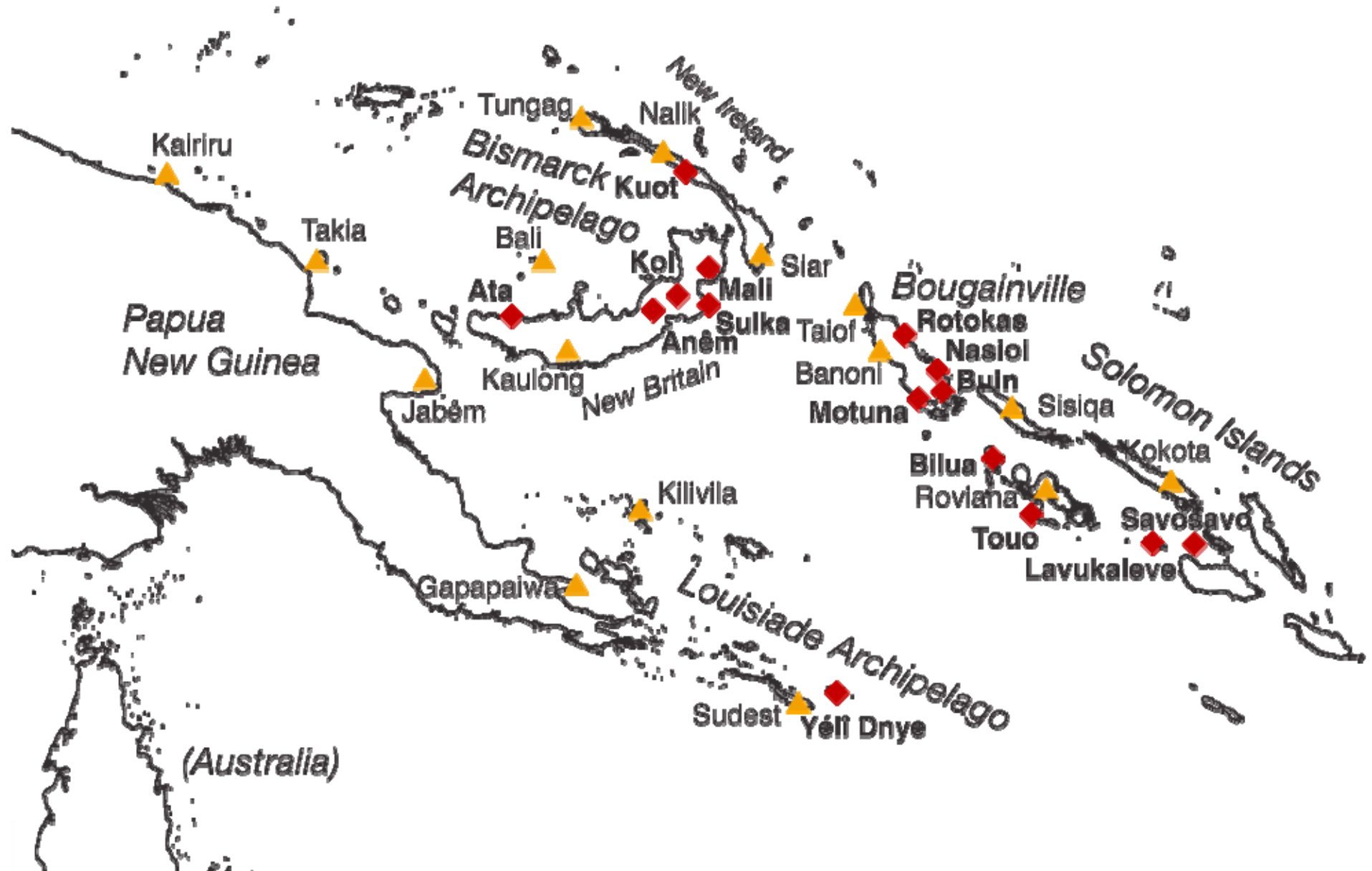
A number of structural features, absent from Austronesian languages, are suspiciously frequent in IM Papuan, e.g:

- grammatical gender
- verb-final word order
- no distinction between /r/ and //

So the *structure of systems* can be investigated, even if the actual forms cannot.

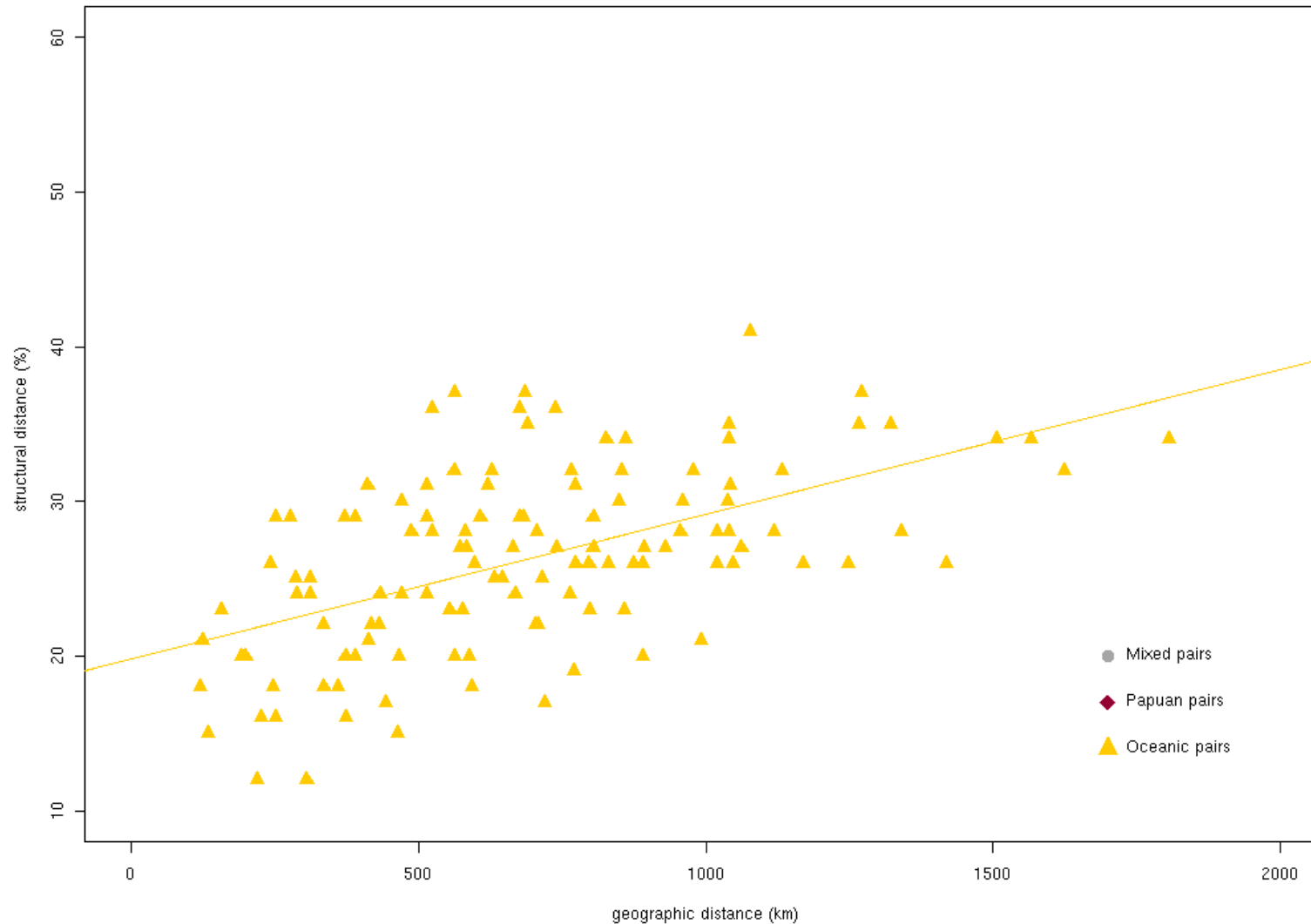


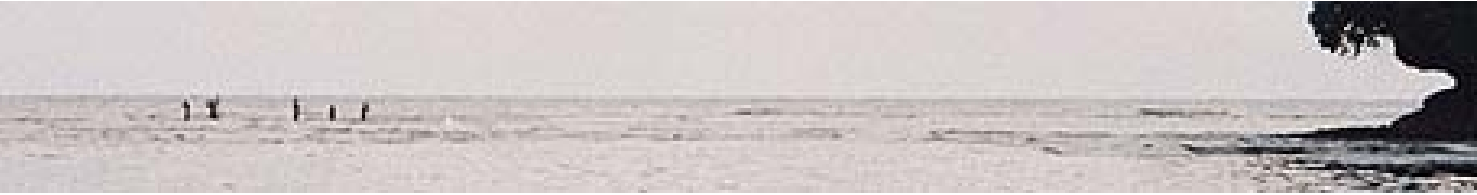
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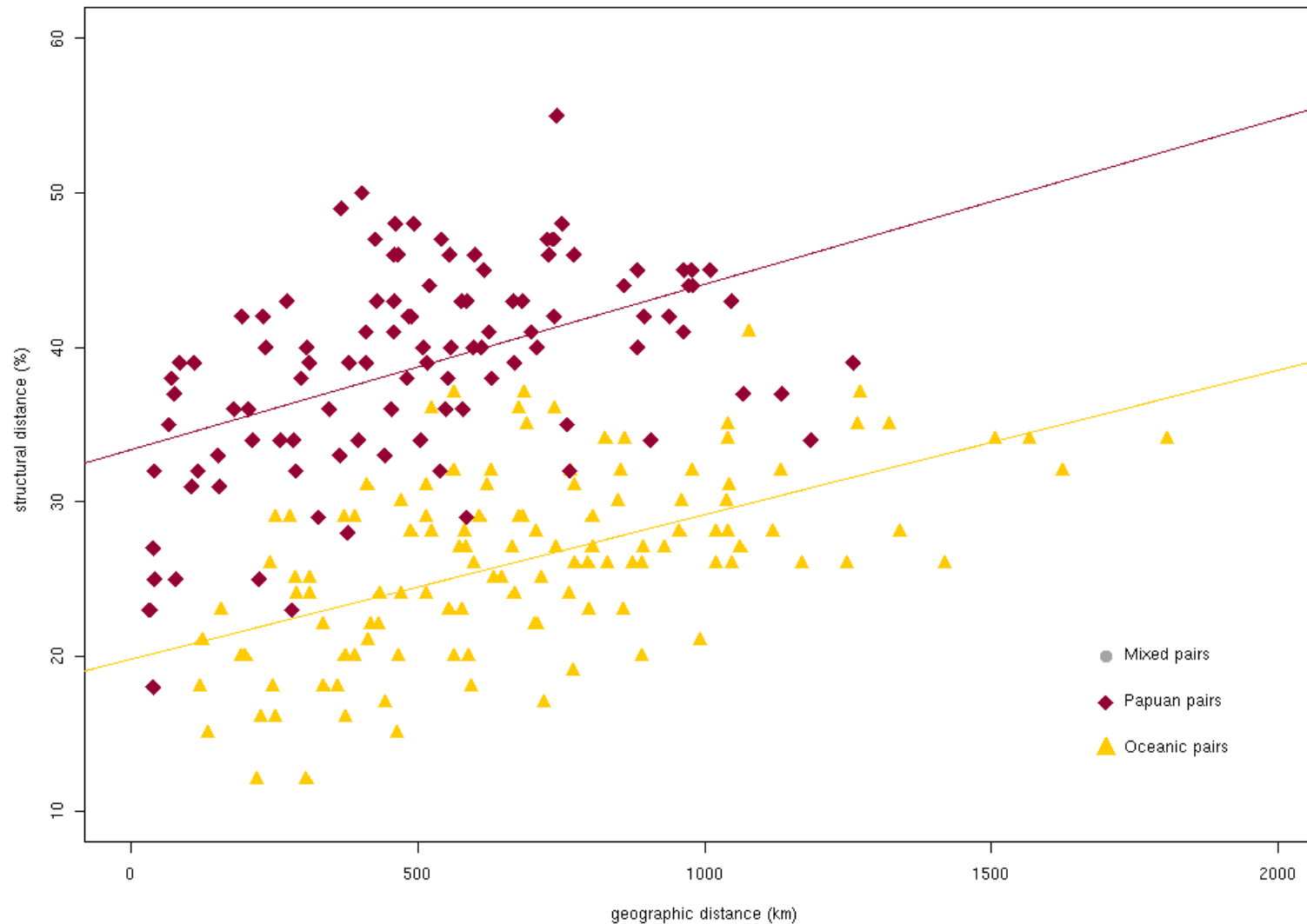


Structural and geographic distance



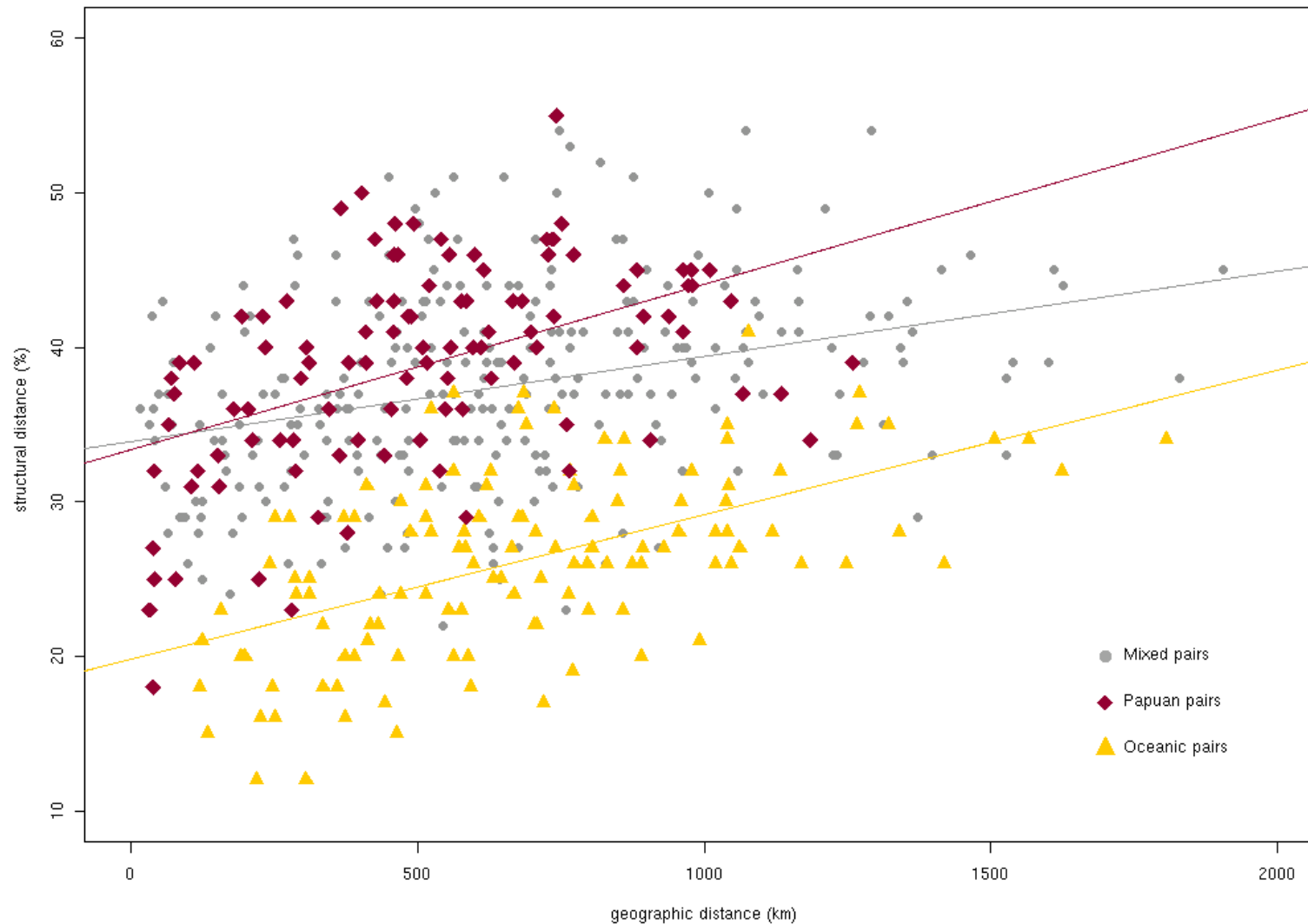


Structural and geographic distance

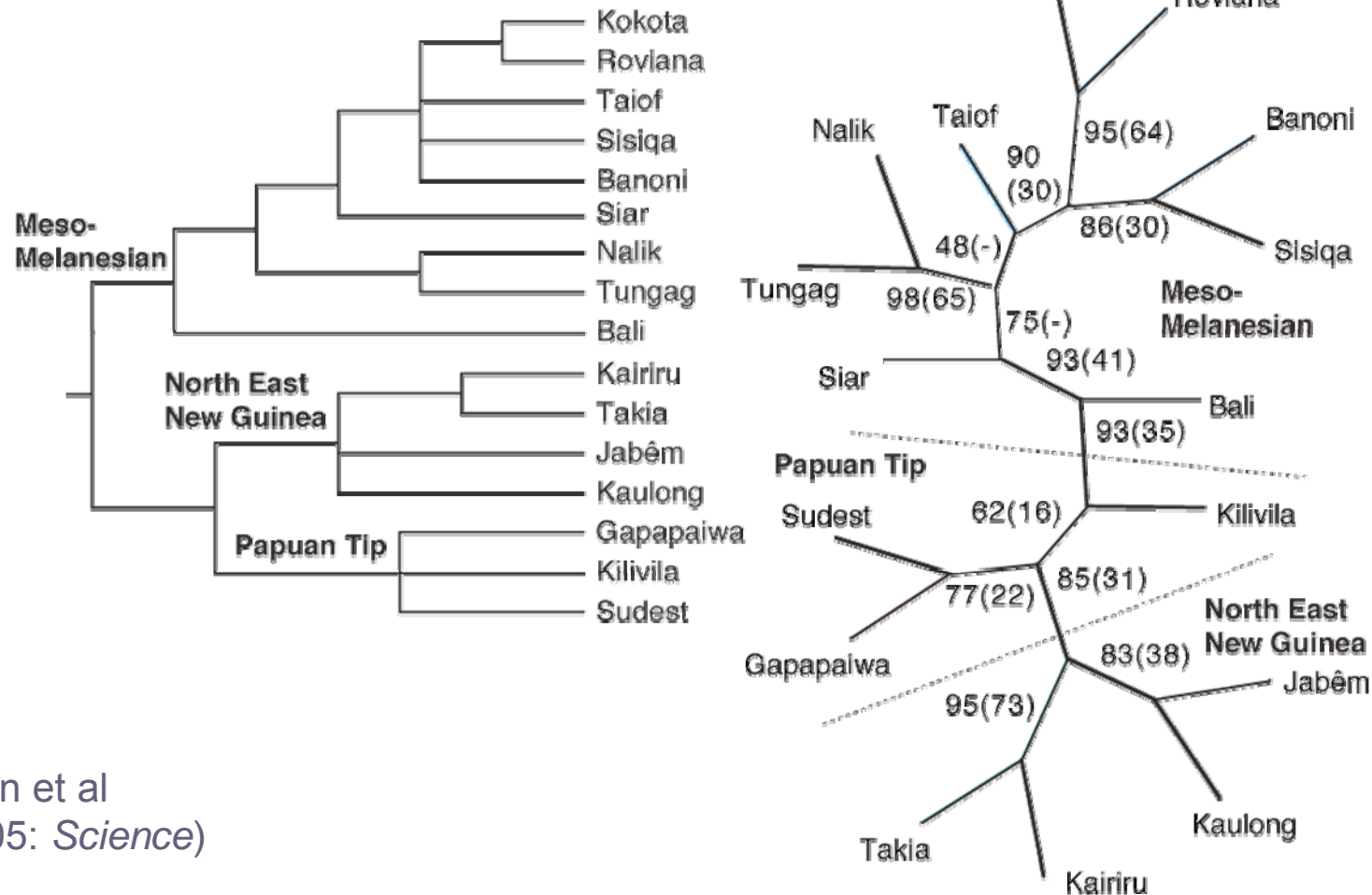




Structural and geographic distance

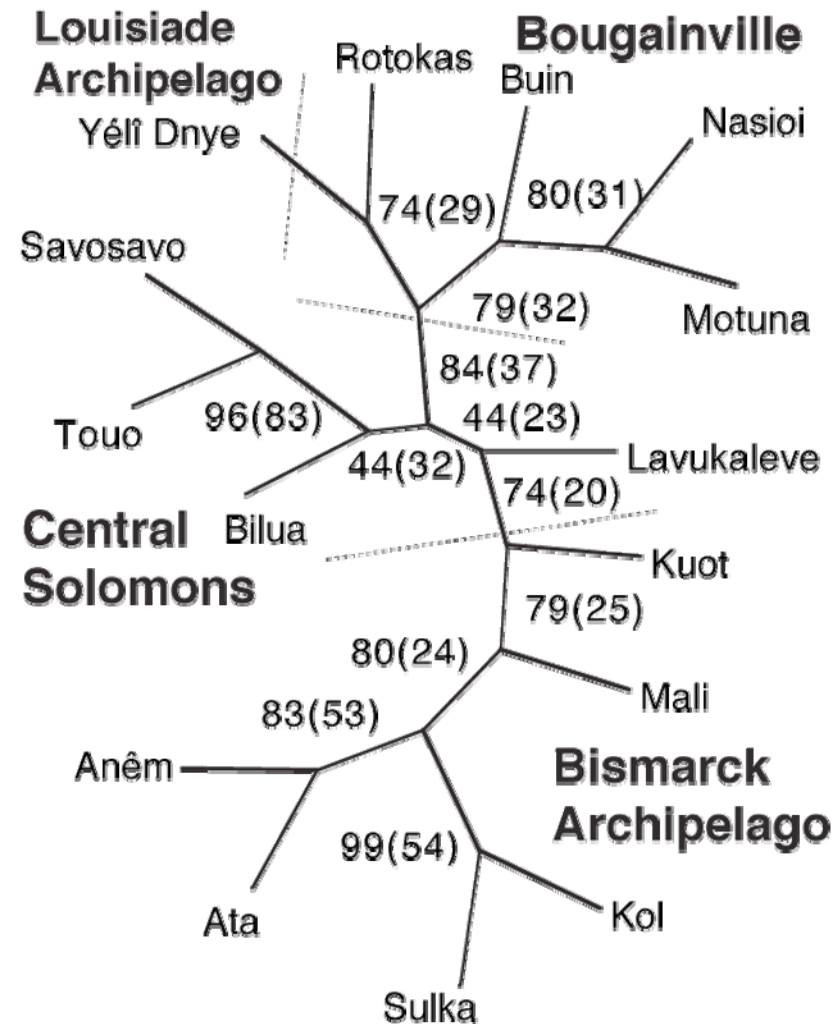


Austronesian languages



Dunn et al
(2005: *Science*)

Papuan languages

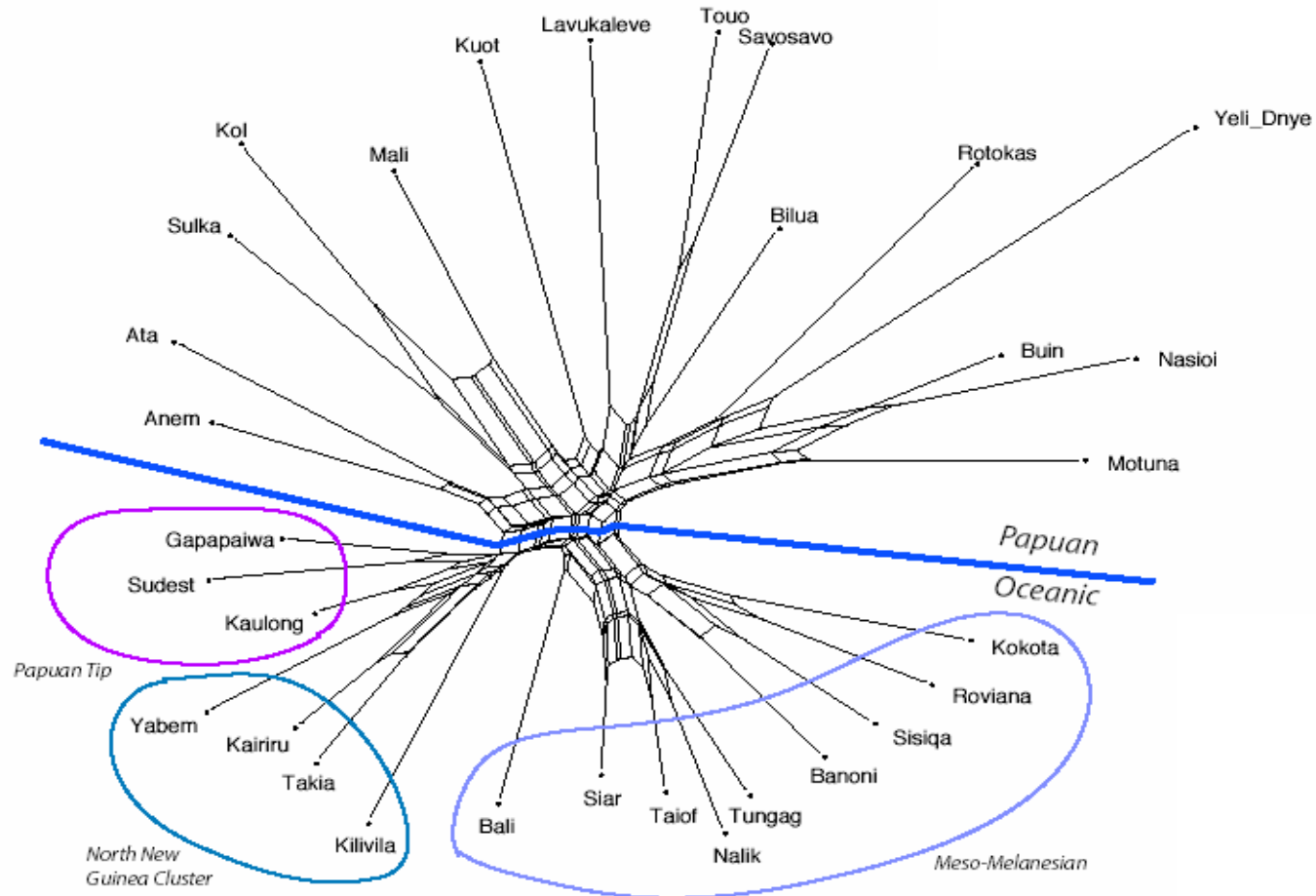


Dunn et al
(2005: *Science*)



Papuan-AN contact: conflicting signal

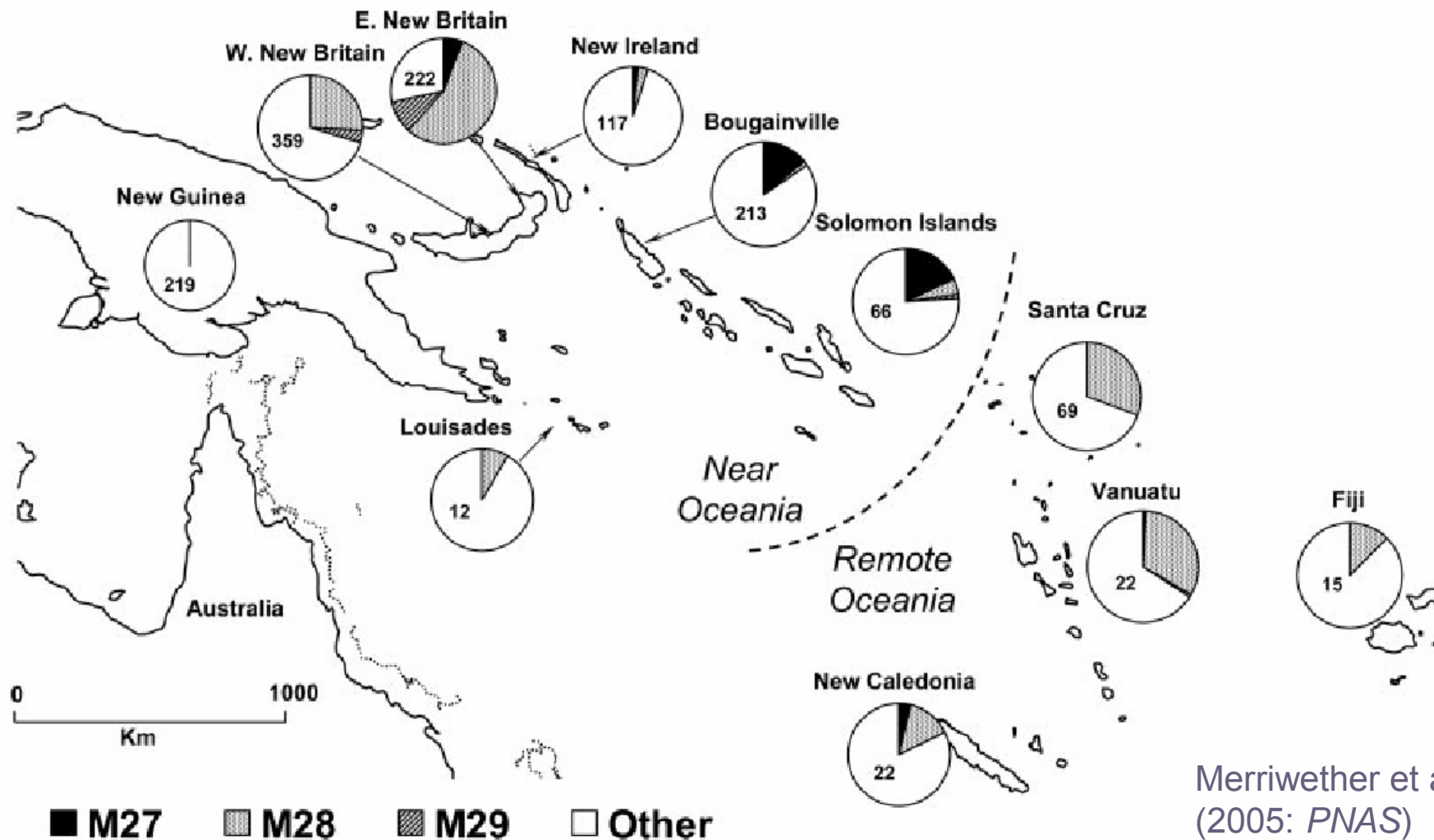
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In this version, the following slides have been removed from the genetics section for copyright reasons – other slides have been substituted:

- Friedlaender et al., in press. A. Pawley & M. Ross (eds) *Papuan Pasts: mtDNA haplogroups in near Oceania* (B P Q E N M7 F M27 M28 M29)
- Friedlaender et al., in press. A. Pawley & M. Ross (eds): *Papuan Pasts: mtDNA haplogroups in the Bismarcks and Bougainville* (B P Q1 Q2 E M27 M28 M29)

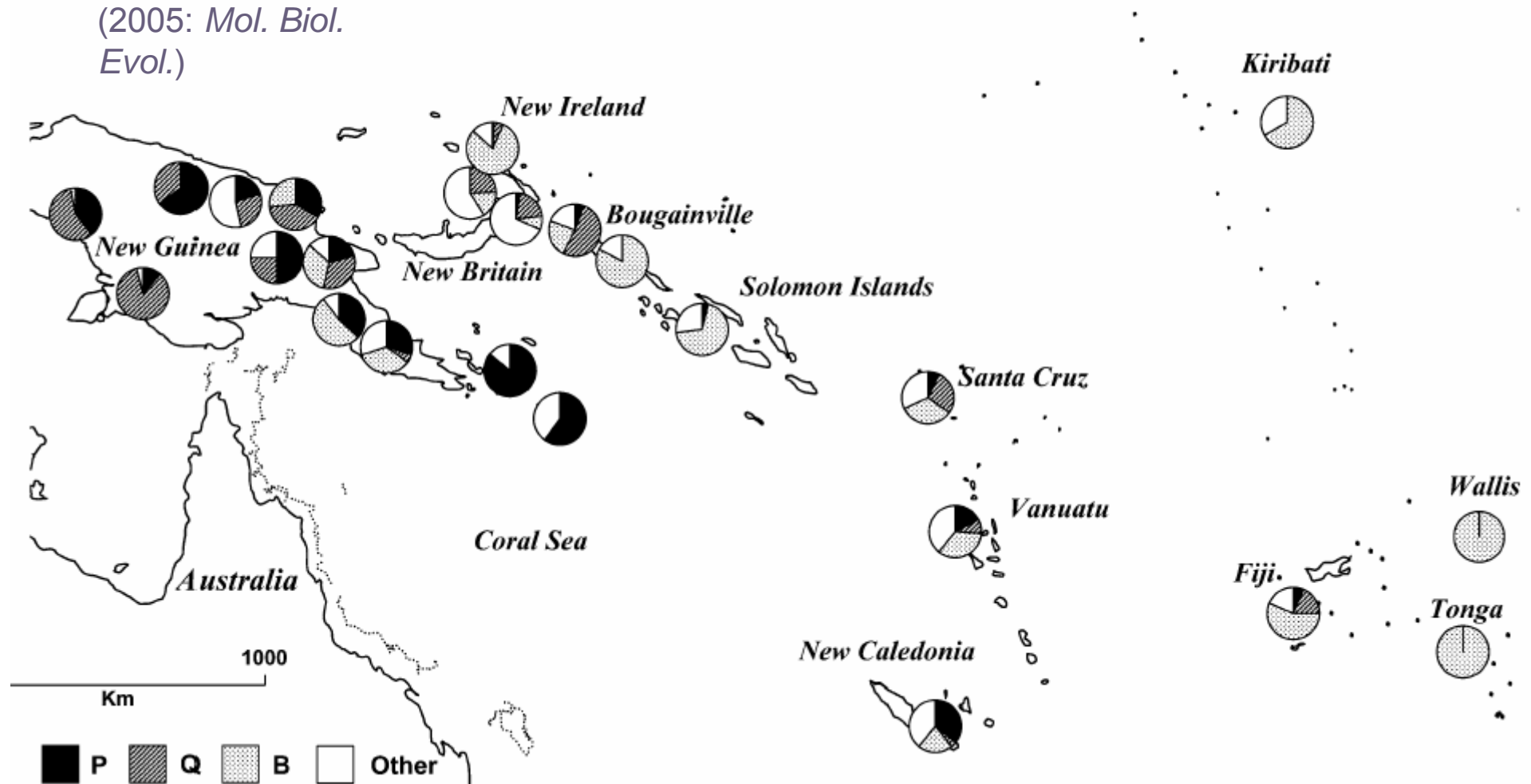
mtDNA: M in the SW Pacific



Merriwether et al
(2005: *PNAS*)

mtDNA: B, P & Q in the SW Pacific

Friedlaender et al
(2005: *Mol. Biol. Evol.*)





Pioneers of Island Melanesia

Trejaut et al (2005:
PloS Biology)

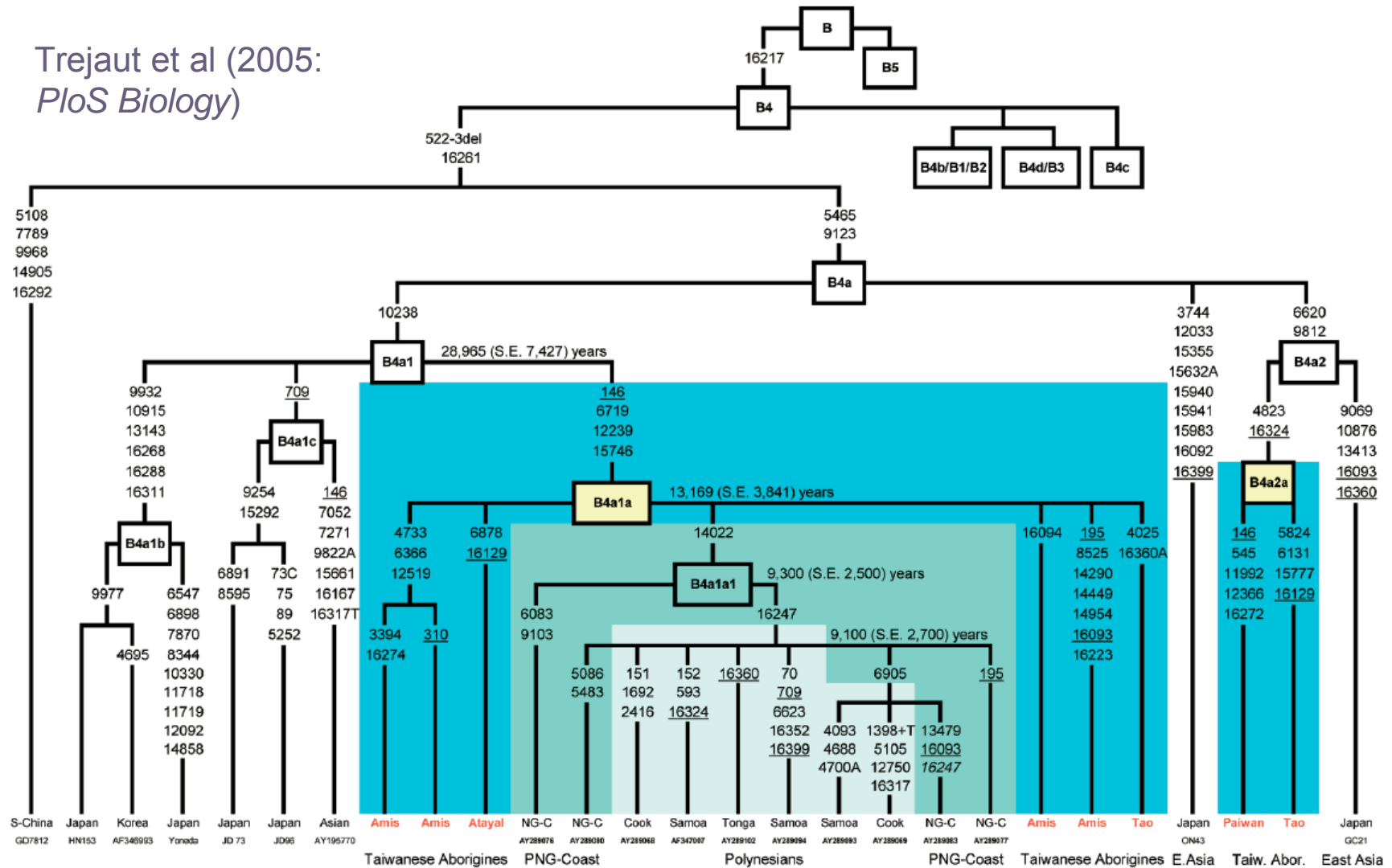


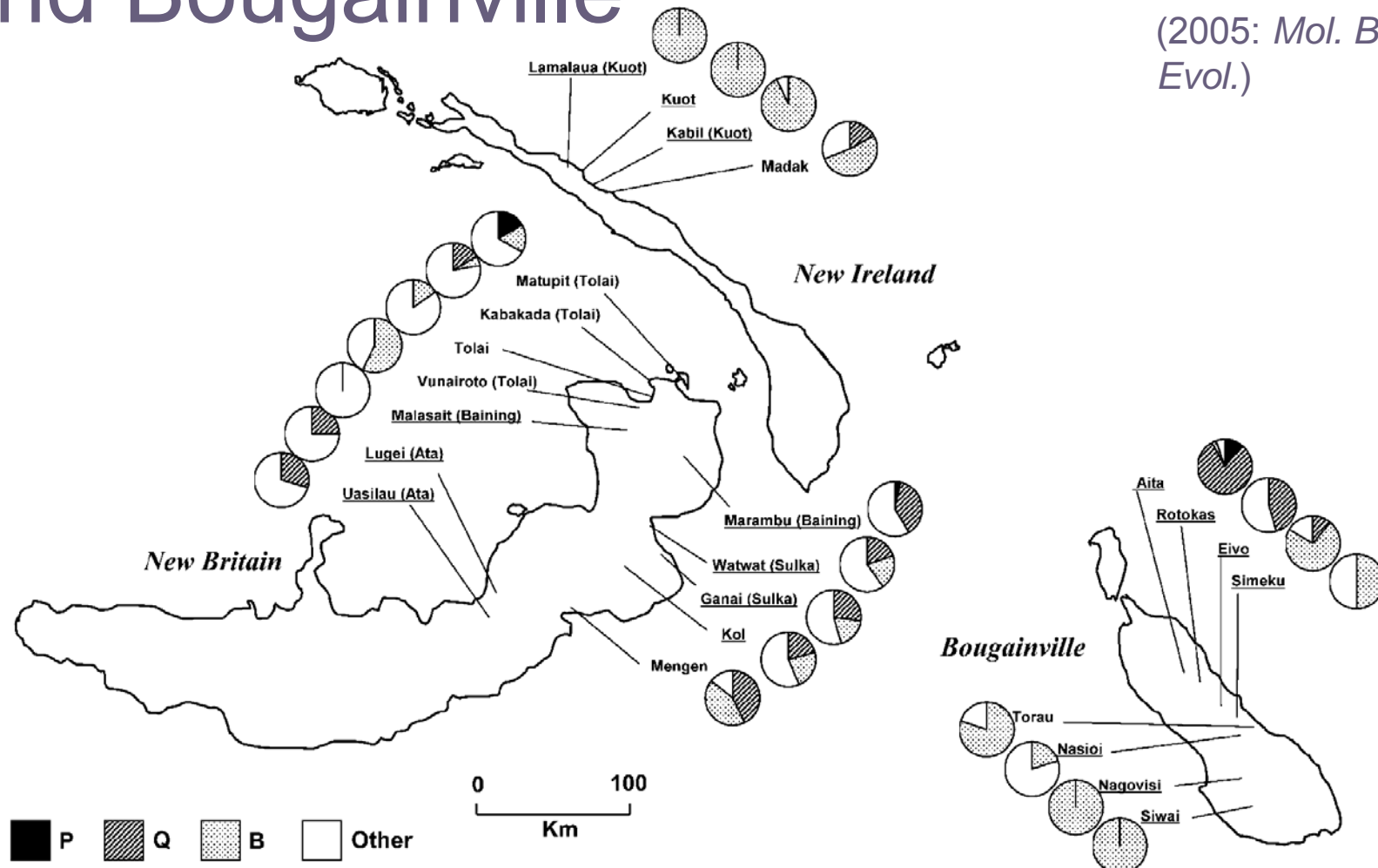
Figure 4. Phylogenetic Tree Relating Haplogroup B4a1 Complete Sequences

Base pair exchange is specified only for transversions. Recurrent mutations are underlined. Coalescence times are shown beside nodes.

DOI: 10.1371/journal.pbio.0030247.g004

mtDNA: B, P & Q in the Bismarcks and Bougainville

Friedlaender et al
(2005: *Mol. Biol.
Evol.*)



Y Chromosome haplogroups in NG

Kayser et al
(2003: *Am. J.
Hum. Genet.*)

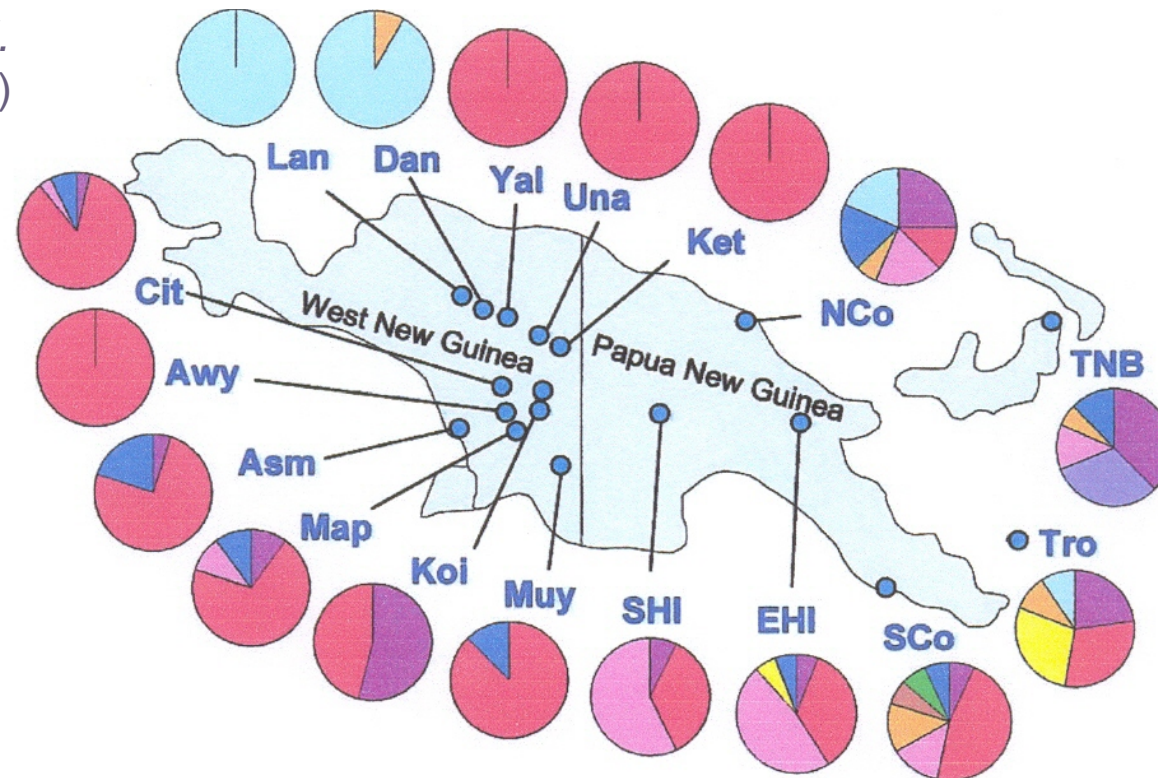


Figure 3 Y-chromosome haplogroups and their frequency distribution in regional populations from New Guinea. Population abbreviations are as follows: Dan = Dani, Lan = Lani, Yal = Yali, Una = Una, Ket = Ketengban, Awy = Awyu, Koi = Kombai/Korowai, Mui = Muiyu, Map = Mappi, Asm = Asmat, Cit = Citak, SHI = PNG southern highlands, EHI = PNG eastern highlands, NCo = PNG northern coast, and SCo = PNG southern coast. Color code is as in figures 1 and 2.



"Humans walking on earth" by JAO aka J. A. O'Baoighill (USA), 2001

mtDNA haplogroup relations

