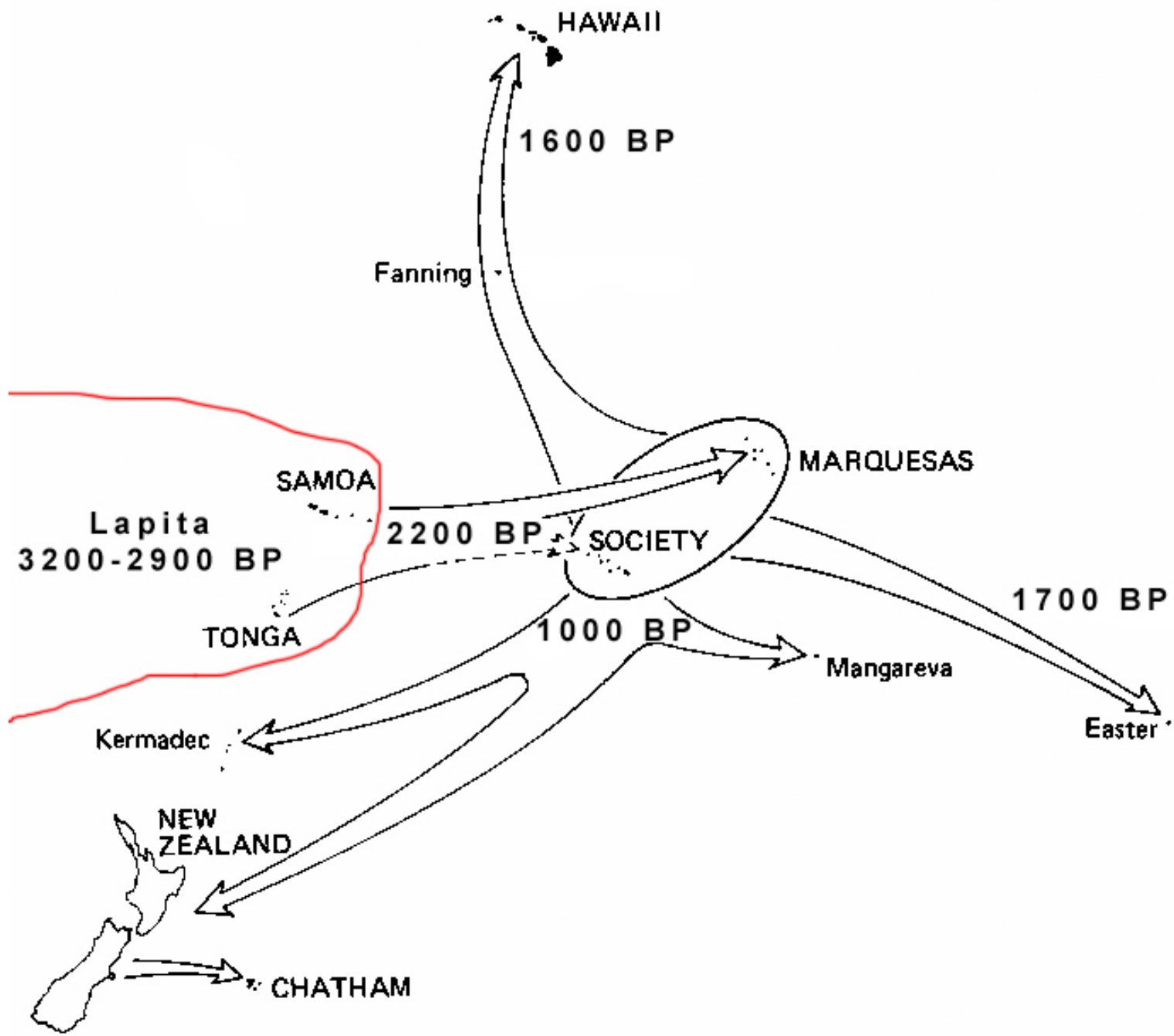


From Kirch (2000), check Denhan et al (2012) for latest dates







Lapita site, New Caledonia



FIGURE 4.12 Excavations at the waterlogged Talepakemalai site in the Mussau Islands exposed the anaerobically preserved bases of wooden posts, once supporting stilt-houses over a shallow reef flat. (Photo by P. V. Kirch.)

(Kirch 2000)



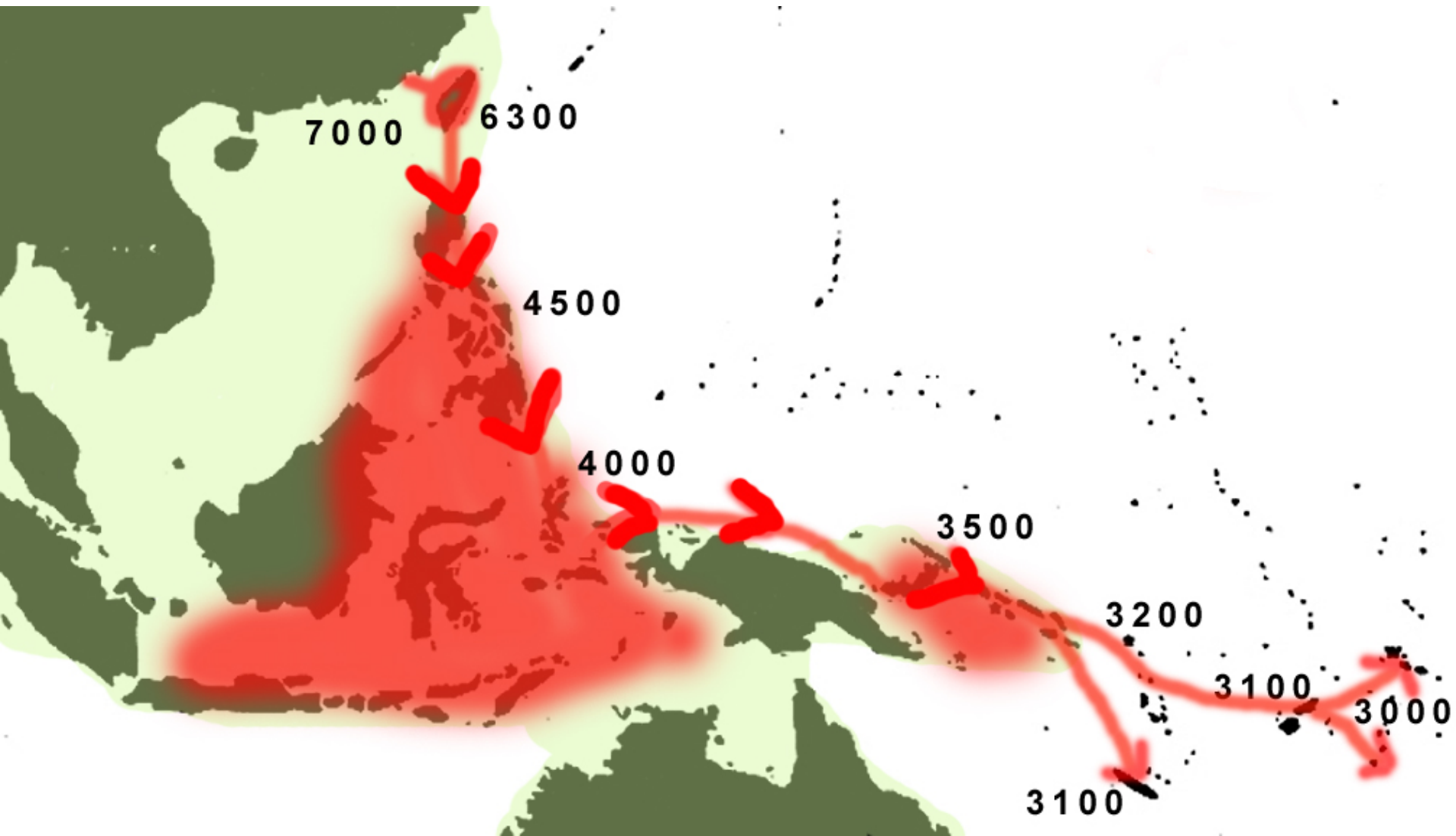
Stilt houses, New Guinea



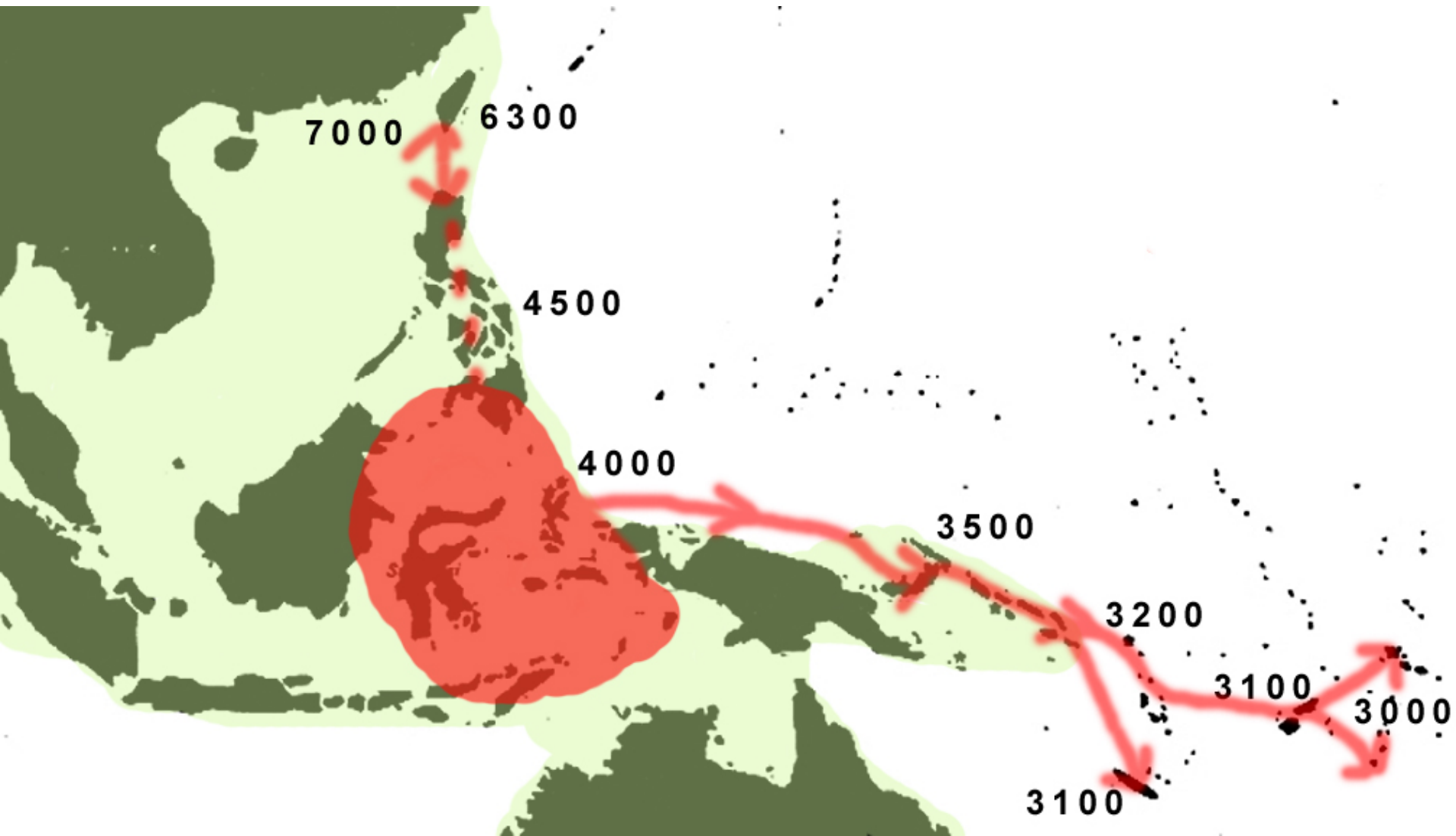
Nenumbo Site, Reef Islands
First human presence in Remote Oceania(?)

ExpressTrain

(out of Taiwan)

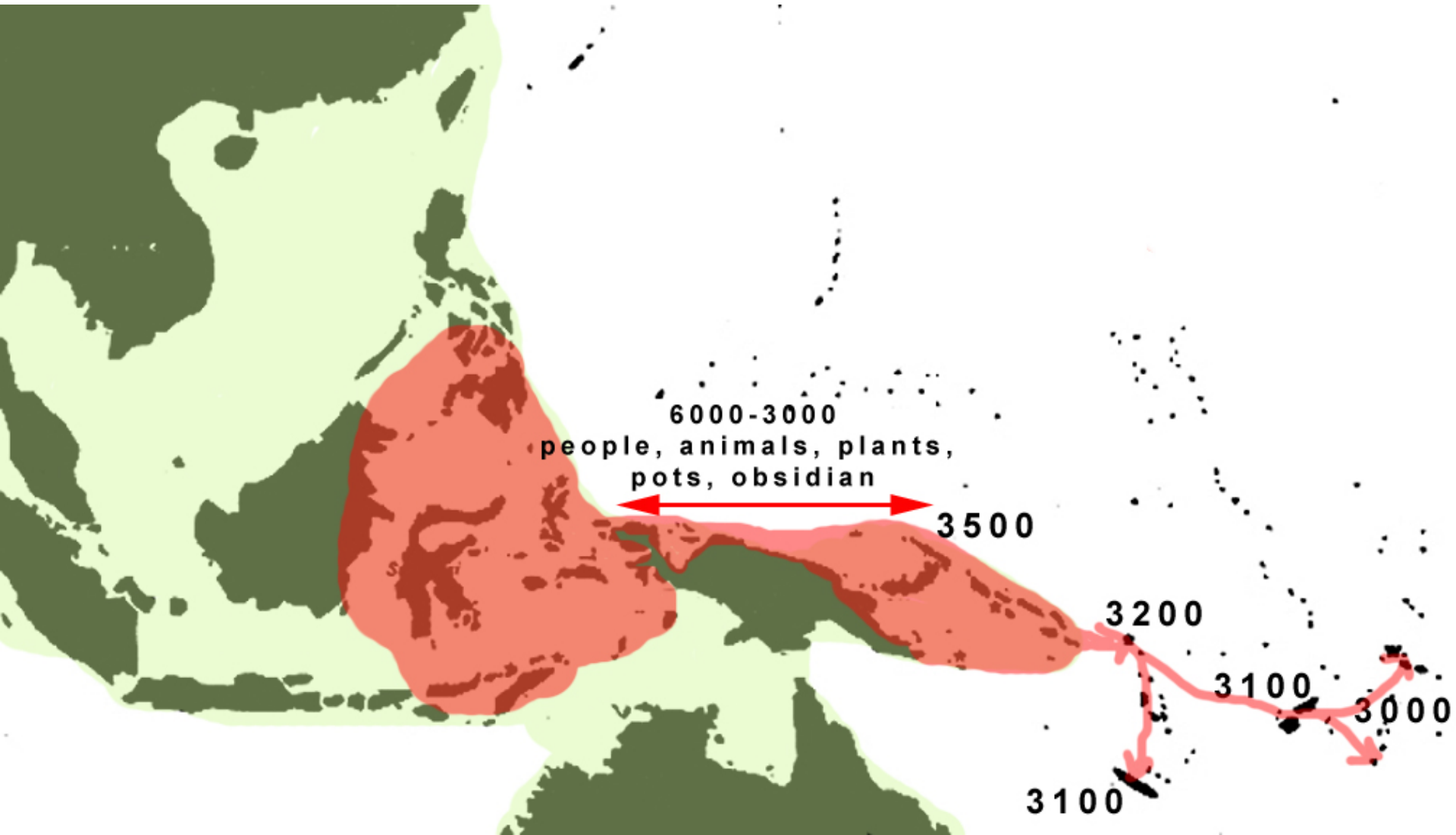


Slow Boat (out of ISEA)

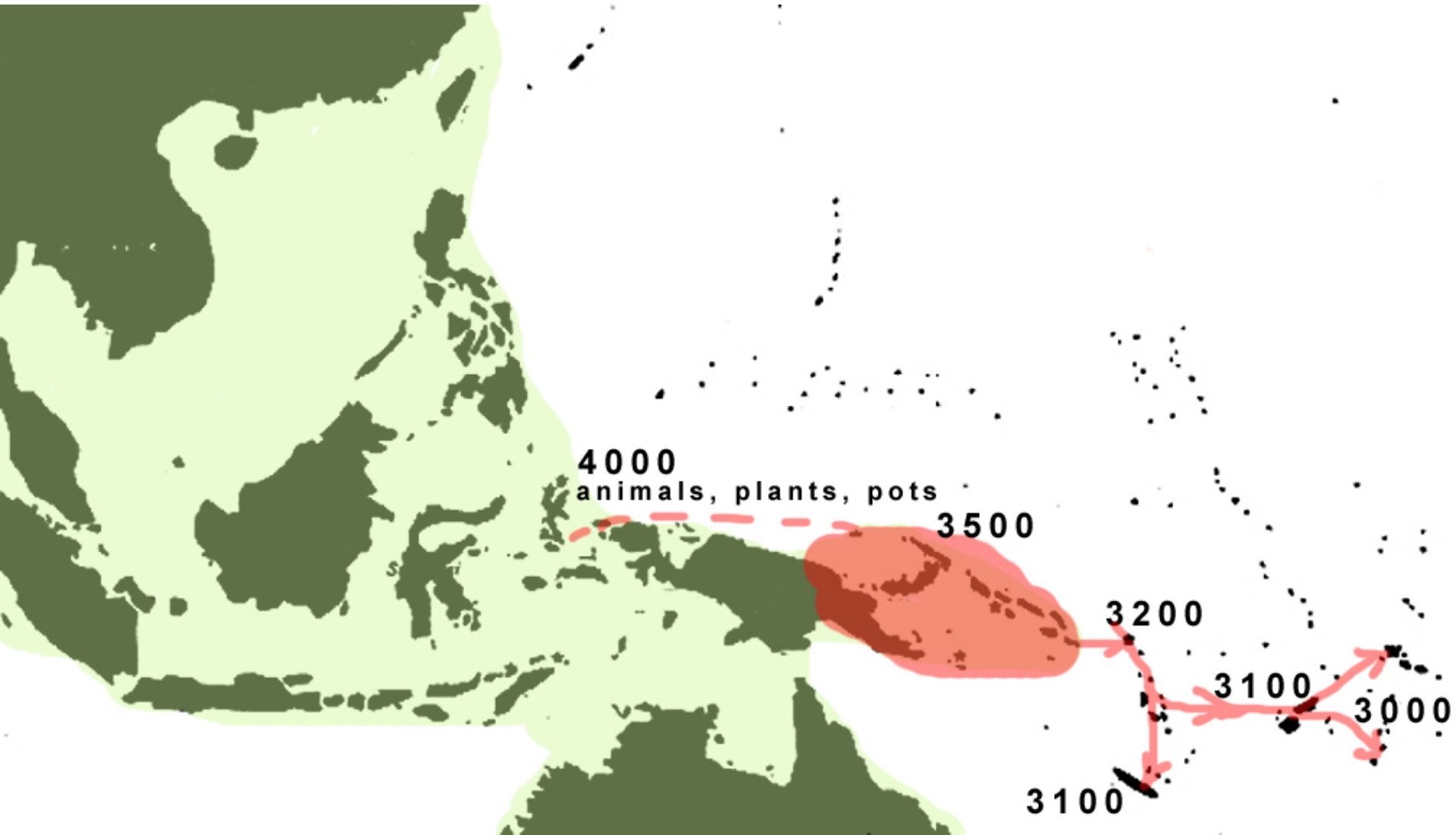


Entangled Bank

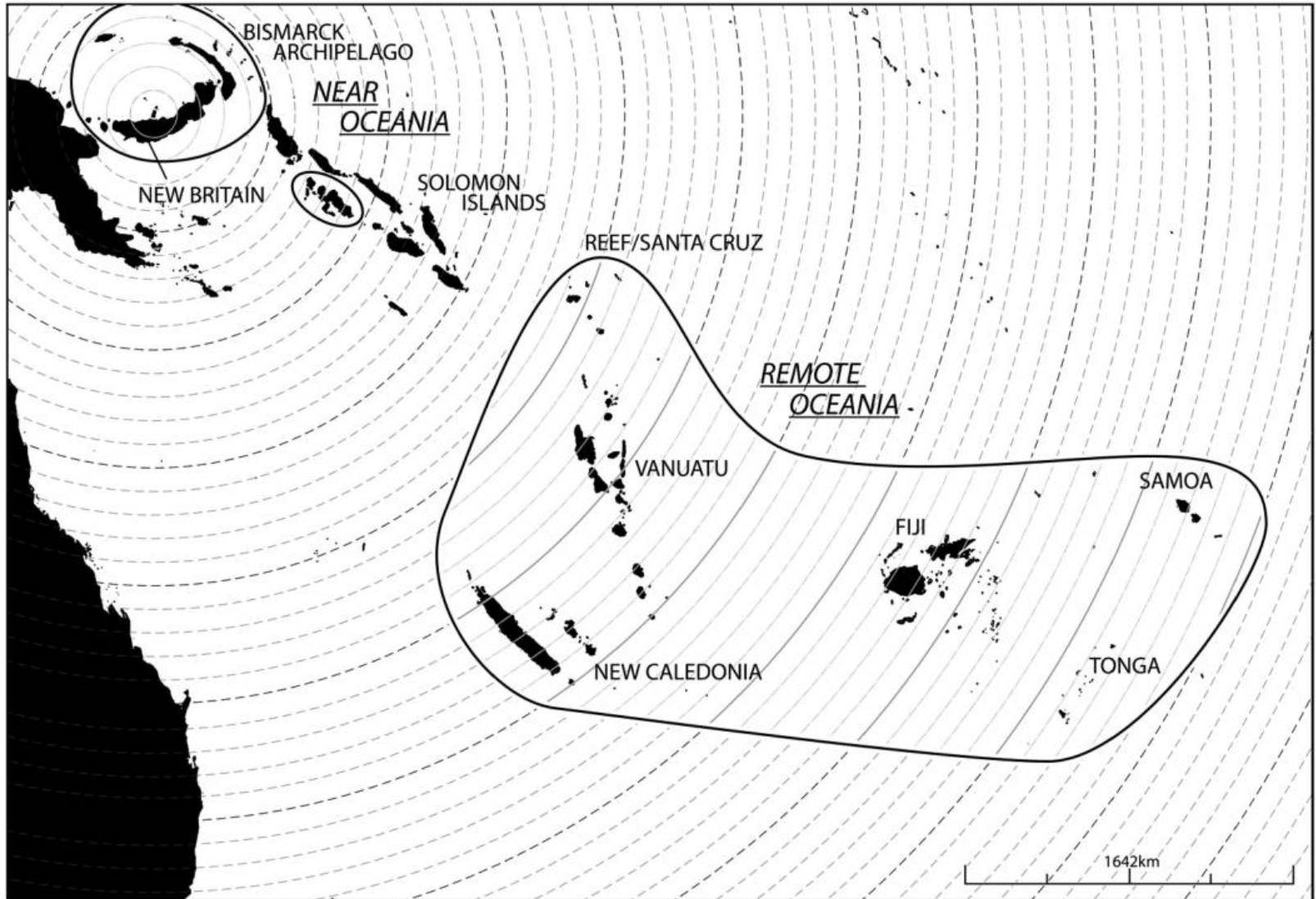
(variants: Nusuntao, voyaging corridor)



Indigenous Melanesian

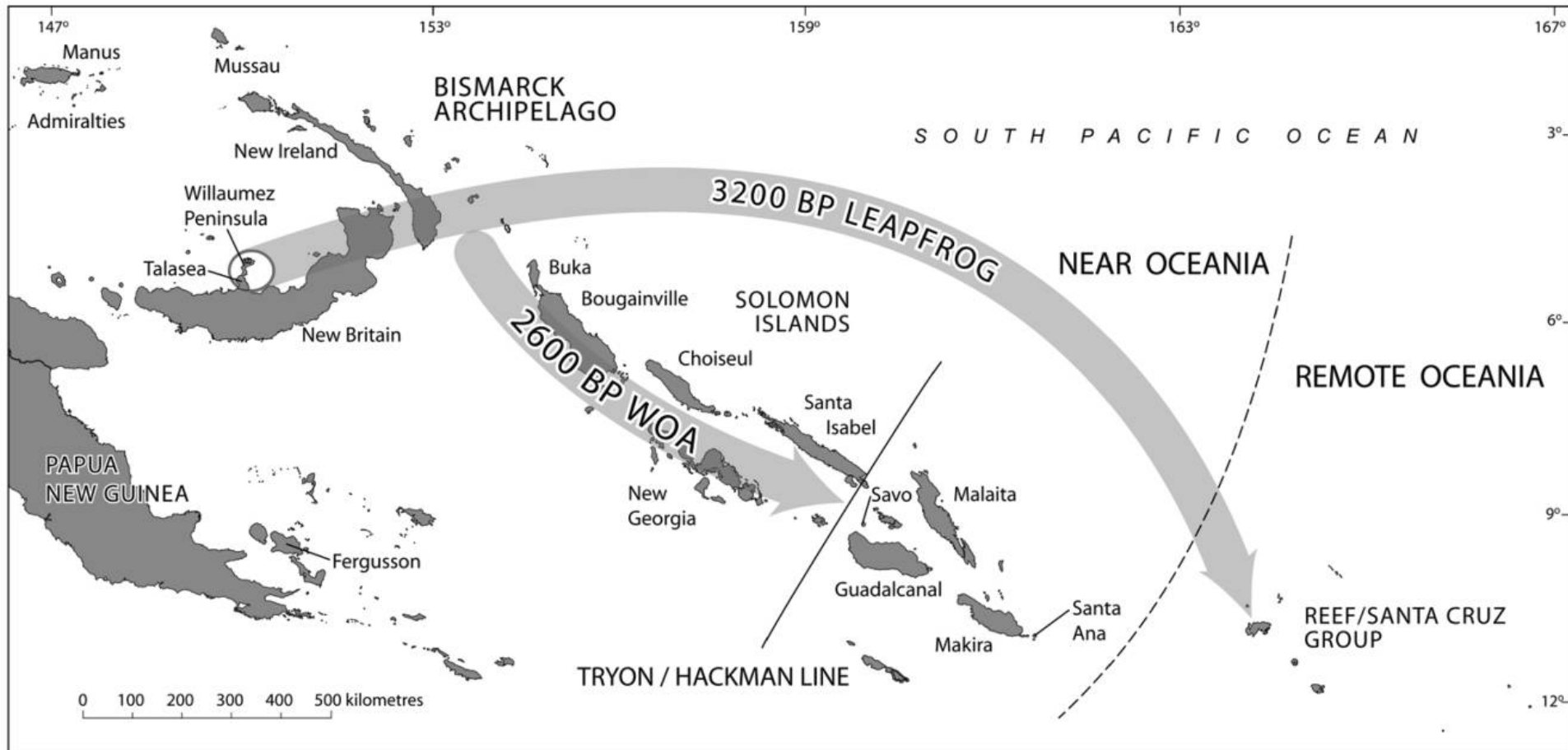


How did Lapita spread?



Wave of advance model (Sheppard 2011)

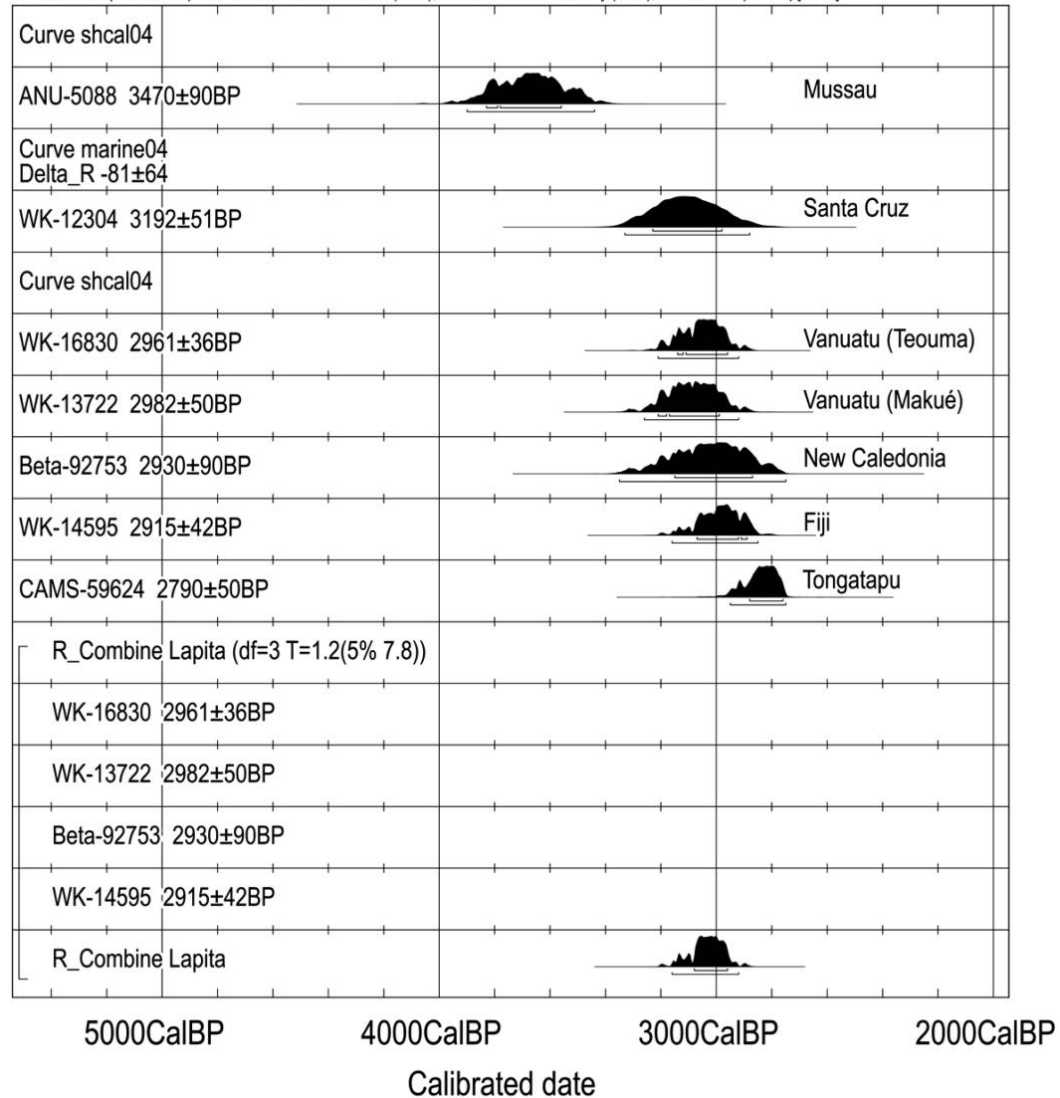
How did Lapita spread?



Leapfrog model (Sheppard 2011)

Dates

Southern Hemisphere Atmospheric data from McCormac et al (2004); OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]



(Sheppard 2011)

Most theories agree:

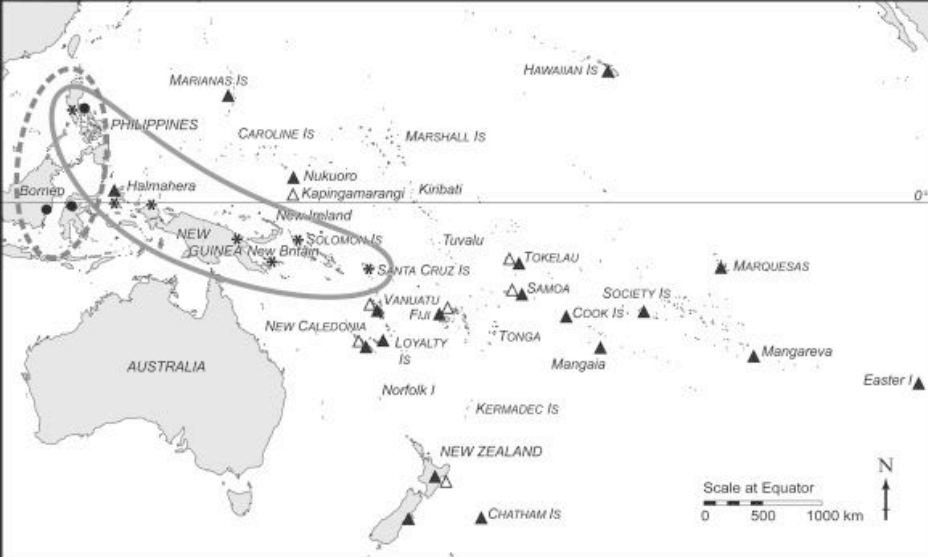
- Lapita sites were made by ancestors of the people currently occupying Polynesia (and some of Melanesia)
- Lapita sites were made by people speaking Austronesian languages

Where the theories disagree:

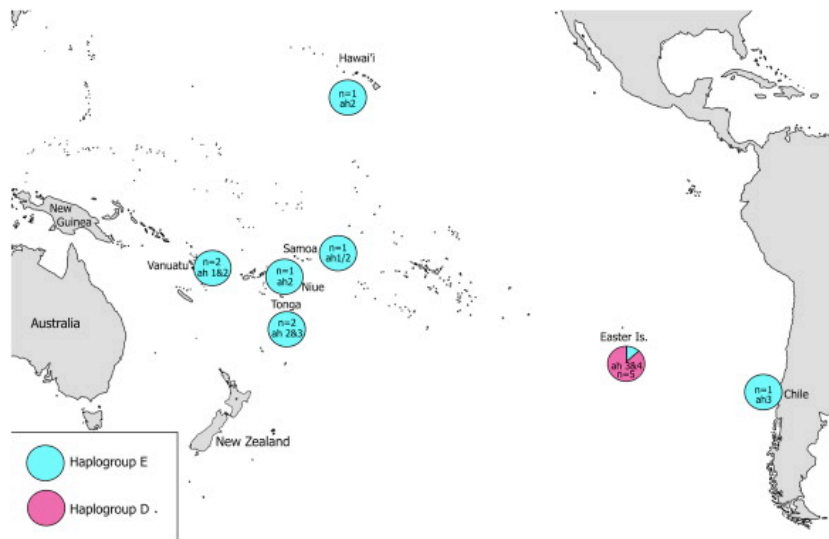
- Are Lapita sites *so different* from earlier sites that they must have been created by people who migrated in from elsewhere?
- If Lapita sites were made by immigrants, how much interaction did they have with people already there?

Archaeology, languages, genes

- Pots, big fishhooks, dogs, chickens, pigs appear earlier in mainland Asia (or do they?)
- These items spread as a “package” (or do they?)
- “Package shows up first in Taiwan, then Philippines, ISEA, Near Oceania, Remote Oceania (or does it?)
- Sites are generally marine oriented, e.g. on coasts, on small islands, lots of fish (is this really new?)
- No early Lapita sites on mainland New Guinea and Solomons (absence of evidence?)

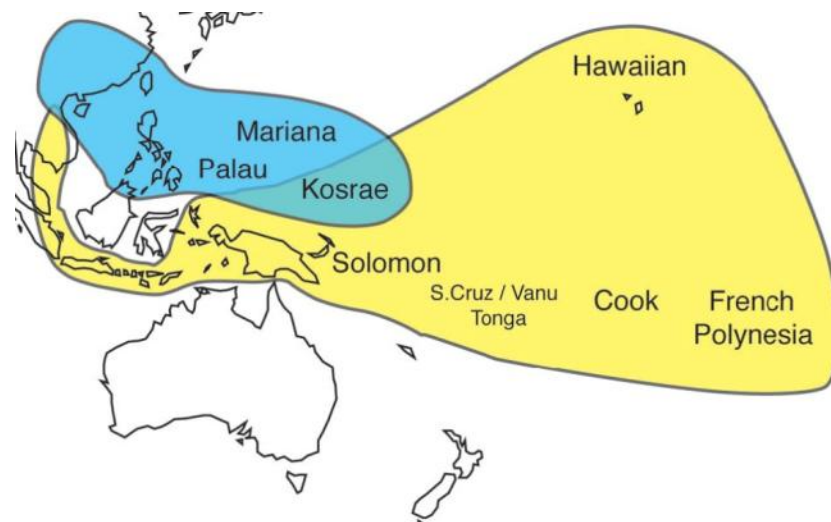


Rats (Matisoo-Smith et al. 2004)



Chickens (Story et al. 2010)

Pigs



Map of East Asia and the Pacific depicting only the distributions of Pacific Clade (yellow) and East Asian haplotypes (light blue). Ancient pigs on the island of Kosrae possess both haplotypes, as do modern pigs from Hawaii, although the East Asian haplotypes on Hawaii are likely the result of postcontact introductions (Larson et al. 2007).

Archaeology, **languages**, genes

- Chronology of spread of ISEA Neolithic and Lapita artifacts mirrors phylogenetic reconstructions of Austronesian proto-languages, with Taiwan having evidence as ultimate source (i.e. greatest diversity)
- AN only language spoken in remote Oceania
 - If Lapita people spoke NAN, why didn't it survive?
- AN in Near Oceania mostly along coasts
 - Mirrors location of Lapita sites
- AN words for pig, dog, chicken, boat parts, some plants borrowed by NAN languages
 - Mirrors items found for 1st time in Lapita sites

Archaeology, languages, **genes**

- Ultimate Source of ISEA Neolithic and Lapita “package” (i.e. Asia) coincides with source of some main genetic markers in contemporary Polynesian populations
- Polynesian DNA is more closely related to Asian DNA than Melanesian DNA
 - Some mtDNA markers (e.g. 9 base-pair deletion) found in 90% of Polynesians have Asian origins

But...

- Y-chromosomes?
- Malaria markers?
- Can geneticists differentiate 3,000 year old genetic mixing from later events?

Micronesia?

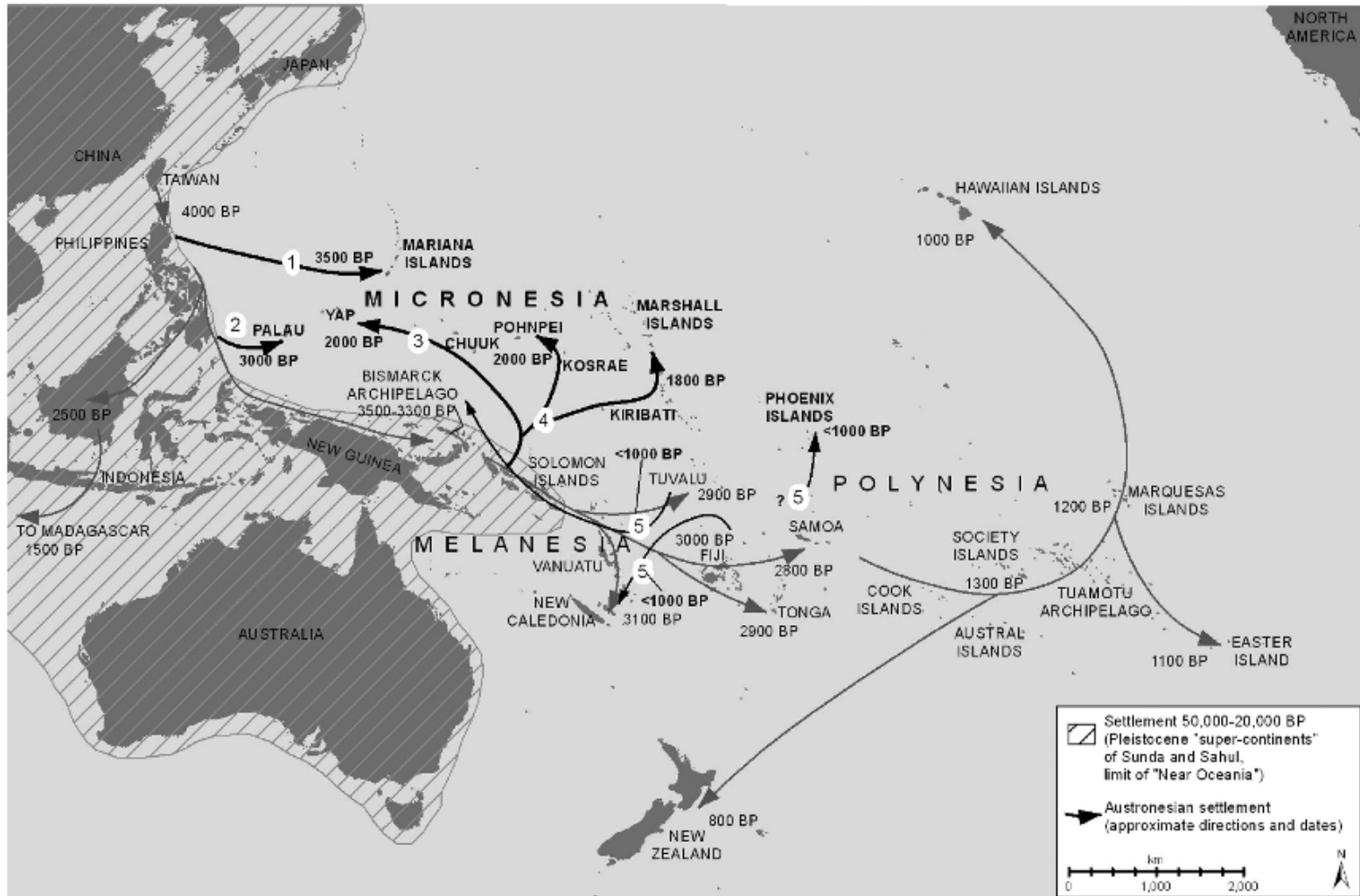


Fig. 1: Major colonizing migrations in Micronesia, in relation to larger Asia-Pacific patterns. BP = years before present. *Item 1:* settlement of Mariana Islands, 3500 years BP. *Item 2:* settlement of Palau, 3000 years BP. *Item 3:* settlement of Yap by 2000 years BP or possibly earlier. *Item 4:* settlement of multiple areas in central-eastern Micronesia, beginning 2000–1800 years BP. *Item 5:* settlement of Polynesian Outliers and temporarily in the Phoenix Islands, within the last 1000 years.

Things to watch for:

- Names for cultural groupings that are not cultural (“Austronesian people”, “Lapita people”)
- Improper use of other problematic labels, esp. “Melanesian”
- Claims about chronology from disciplines that have no way to measure time
- Theories from one discipline used as truths in another
- Assumptions about relationships between observed phenomena and past processes