How New Guineans came to New Guinea and what happened on the way

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Jared Diamond: The third chimpanzee
Alternate history: from creation stories straight to darwinism?
**Homo sapiens**

- molecular data: 200-250,000 years in Africa
- oldest fossils: 160,000 years in Ethiopia
- genetically very homogeneous population (great numerical bottleneck 70-75 thousand years ago when human population was less than 2,000 individuals)
Homo sapiens sites more than 50,000 years old. Out of Africa II & III: dispersal of Homo Sapiens ~500 ky & ~100 kya.

Major migrations in the last 50,000 years ("Out of Asia").
**Homo neanderthalensis**

- 350,000-30,000 years ago
- Europe & Asia

Neanderthals contributing 1–4% of the genomes of present-day humans in Eurasia
Homo floresiensis
PCA of the means of 53 present-day human populations projected onto the top two principal components defined by Denisovans, Neanderthals and chimpanzees.

Denisovans:
Asian hominin species that shares a common origin with Neanderthals. It contributed 4–6% of its genetic material to the genomes of present-day Melanesians.

Reich et al. 2010: Nature 468: 1053
HLA (human leukocyte genes):

a family of ~200 highly variable genes, part of immune system

HLA alleles coming from other hominid species:

Europeans: 50%

Chinese: 72%

New Guineans: 90%
New Guinea Highlands reached by people 36 – 49,000 years ago

Evidence for use of wild *Pandanus* nuts and yams and tree felling by stone tools at 2000 m asl.
Agriculture was independently invented in New Guinea by at least 6950 to 6440 years BP (taro *Colocasia esculenta* and banana *Musa* spp. cultivation).
Origins of agriculture
By inventing agriculture 7,000 years ago, New Guineans were amongst the technologically most advanced peoples on Earth. Unfortunately, this was no longer the case in the 20th century...
Changes in pollen records from New Guinea highland valleys in the Holocene

Agroforestry system with N-fixing *Casuarina* trees

Telefomin: forest burning and clearance 8.5-12,000 yrs BP, followed by forest recovery and again by forest decline during the last 1200 years.
High-intensity subsistence agriculture (sweet potato)
First modern biologist in New Guinea

Nikolaj Nikolajevitch Mikloucho-Maclay, 1871

New Guinea: last „first contact“ in human history
Customary land rights of indigenous people on 97% of land protected by the Papua New Guinea laws.
Engans brandishing bush knives and pieces of wood march through the city of Lae on their way to the peace meeting at Eriku yesterday.
New Guinea: heart of darkness
land of the unexpected
think you have seen it all?