

Sweet Potato
From S. America to
Polynesia

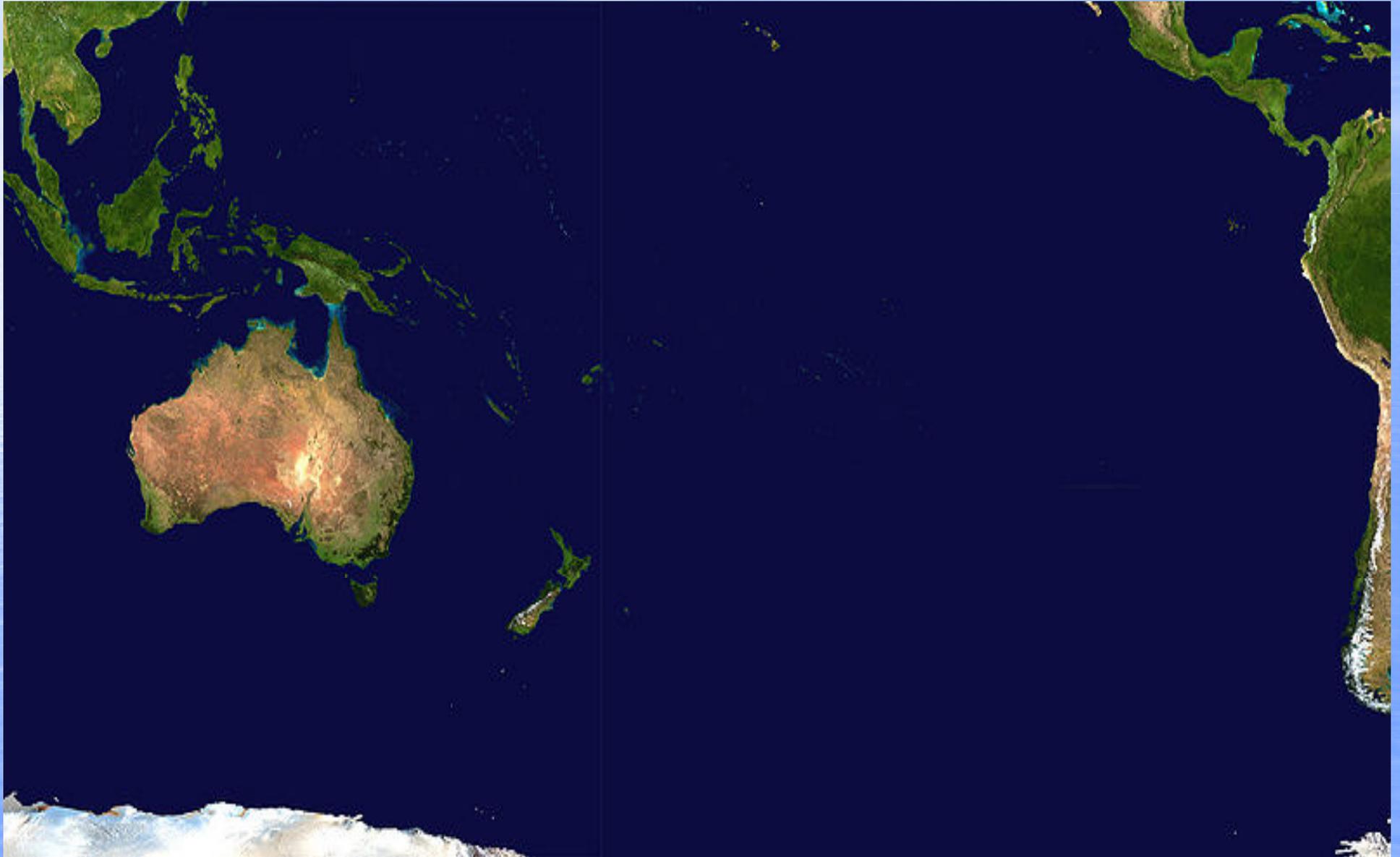
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Biol 330
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Historical Collections Reveal Patterns of Diffusion of Sweet Potato in Oceania Obscured By Modern Plant Movements and Recombination

Roullier, Benoit, Mckey 2013

“TRIPARTITE HYPOTHESIS”

Satellite View of Oceania



Tripartite Hypothesis

First Origin: Polynesian Voyagers diffusing throughout Polynesia.

Second and Third Origin: European contact by local traders and European travelers in the Western Pacific.



Kon-Tiki

Thor Heyerdahl,
April 1947

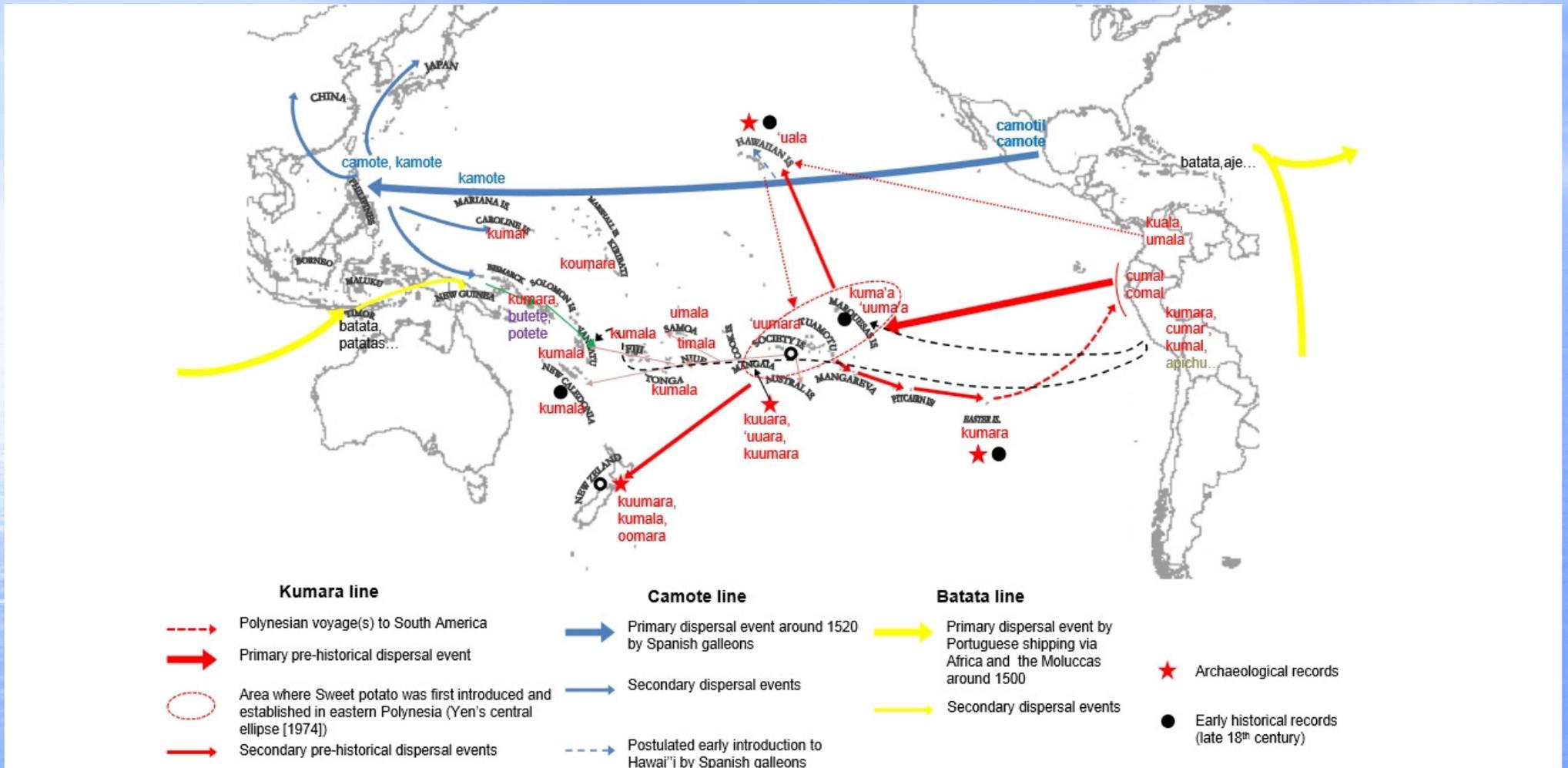


Kuumala
(Polynesian)



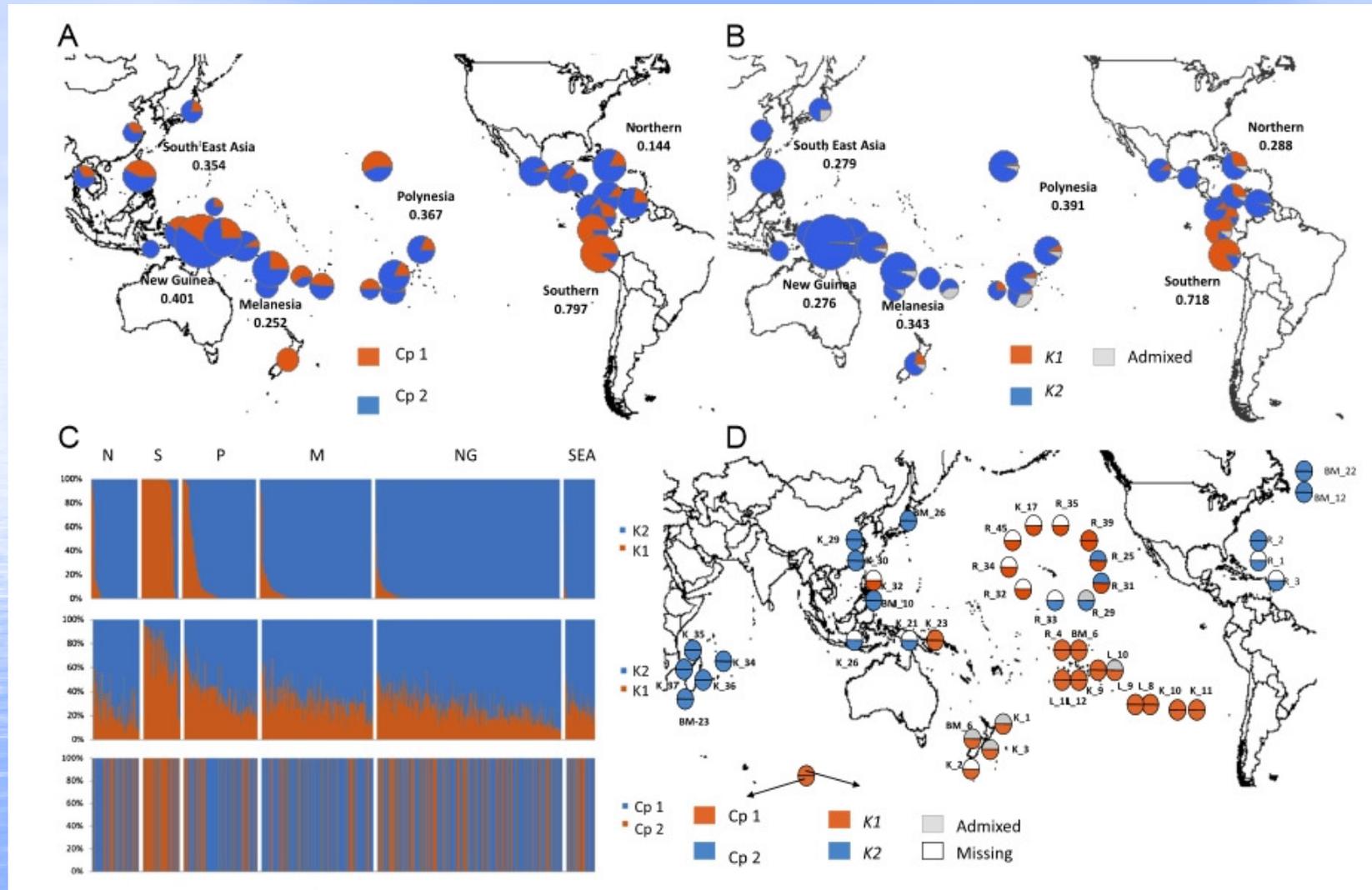
Kumara
(South American)

HOW?



- Uses nuclear and chloroplast microsatellite markers
- Peru-Ecuador region as Southern Gene Pool (Kumara line)
- Caribbean and Central America region as Northern Gene pool (Batata and Camote lines)

GEOGRAPHICAL DISTRIBUTION



Collections from Tropical America, Oceania, and Southeast Asia

K1 nuclear cluster= Southern Gene Pool

K2 nuclear cluster= Northern Gene Pool

Western Pacific: Mostly from K2

Most of Polynesia: Mostly from K1

Genes and Names



- Sweet potato reproduce sexually
- Permits frequent recombination
- Name likely to follow phenotype

REFERNCE

- http://ashipunov.info/shipunov/school/biol_330/presentations/roullier2013_sweet_potato_oceania.pdf
- <http://en.wikipedia.org/wiki/Kon-Tiki>
- <http://www.earlsorganic.com/is-it-a-sweet-potato-or-a-yam/>
- http://upload.wikimedia.org/wikipedia/commons/4/44/Oceania_satellite.jpg