

Earliest Pacific seafarers were matrilineal society, study suggests

DNA analysis of 164 individuals from 2,800 to 300 years ago shows men would move to be with their wives



Boys fishing in the Solomon Islands. By 50,000 years ago, humans had migrated there, and to Australia and New Guinea

Hannah Devlin Science correspondent
Fri 1 Jul 2022

The world's earliest seafarers who set out to colonise remote Pacific islands nearly 3,000 years ago were a matrilineal society with communities organised around the female lineage, analysis of ancient DNA suggests.

The research, based on genetic sequencing of 164 ancient individuals from 2,800 to 300 years ago, suggested that some of the earliest inhabitants of islands in Oceania had population structures in which women almost always remained in their communities after marriage, while men left their mother's community to live with that of their wife. This pattern is strikingly different from that of patrilineal societies, which appeared to be the norm in ancient populations in Europe and Africa.

"The peopling of the Pacific is a longstanding and important mystery as it's the last great expansion of humans into unoccupied areas," said David Reich, a professor of genetics at Harvard Medical School, who led the work.

“Today, traditional communities in the Pacific have both patrilocal and matrilineal population structures and there was a debate about what the common practice was in the ancestral populations,” he said. “These results suggest that in the earliest seafarers, matrilineality was the rule.”

By 50,000 years ago, populations of ancient humans had arrived and spread through Australia, New Guinea and Solomon Islands. But it wasn't until after 3,500 years ago that people, probably living in what is now Taiwan, developed long-distance canoes and ventured out into open ocean, arriving in Remote Oceania. This expansion included the region called Micronesia – about 2,000 small islands north of the equator including Guam, the Marshall Islands, the Caroline Islands, Palau, and the Northern Mariana Islands.

The latest findings, published in the journal *Science*, involved a genome-wide analysis of 164 ancient individuals from five islands dated to 2,800 to 300 years ago and 112 modern individuals. When separate populations remain isolated over time – on islands, for instance – their genomes drift apart. This effect was seen in the ancient Micronesians, but the genetic drift was significantly greater in the mitochondrial DNA, part of the genome that is passed on only down the female line. This strongly suggests that women were not moving across communities as much as men.

“Females certainly moved to new islands, but when they did so they were part of joint movements of both females and males,” said Reich. “This pattern of leaving the community must have been nearly unique to males.”

The work also uncovered new evidence of migrations – again almost exclusively males – from mainland New Guinea, which contributed Papuan ancestry to those living on some islands in Micronesia today.

Dr Mark Dyble, an anthropologist at University College London, who was not involved in the research, said that matrilineal societies were “unusual but by no means unique”, with evidence of matrilineality in pre-industrial societies in the Amazon basin, central China and southern India.

Matrilineality should not necessarily be equated with matriarchy, Dyble stressed. “Matrilineality invokes an image of peaceful relations between islands, with men leaving their island to marry and women staying put,” he said. “However ... the same genetic structure across islands could presumably result from men taking over neighbouring communities by force. Arguably this still counts as matrilineal residence, since men are dispersing and women are staying on their natal island. But on the ground, this is a rather different scenario.”