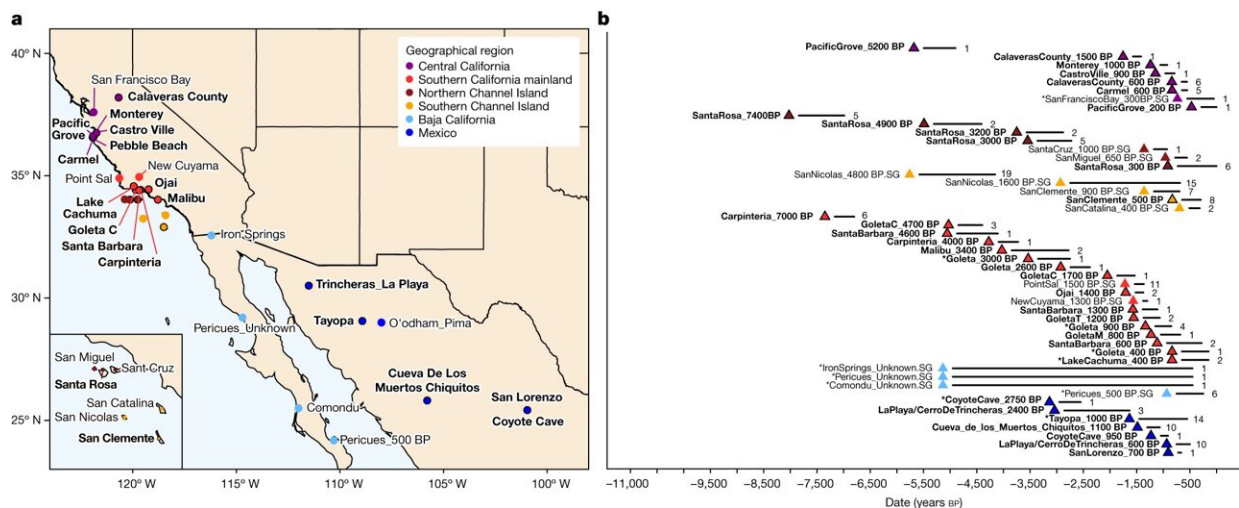


5,200 years of migrations from Mexico to California may be the origin of a mystery language

November 27 2023, by Justin Jackson



Summary of data. Credit: *Nature* (2023). DOI: 10.1038/s41586-023-06771-5

Research led by Nathan Nakatsuka of the Department of Genetics at Harvard Medical School, Boston, has found evidence supporting migrations into California from Mexico and the presence of Mexican-related ancestry in Central and Southern California starting around 5,200 years ago.

In a paper, "Genetic continuity and change among the Indigenous peoples of California," [published](#) in *Nature*, the researchers reveal new

genetic data that links ancient individuals and languages to the cultural landscape of ancient California.

The Chumash region of California runs along the coast from Malibu to north of Paso Robles, inland into Central California and encompasses the Channel Islands.

The earliest DNA sequenced from the Chumash region in California dates back to at least 7,400 years old and was most closely related to modern people from South America and an Anzick individual from Montana who is dated to approximately 12,800 years before present and is associated with Clovis culture.

The Anzick remains, specifically a young boy named Anzick-1, were discovered alongside Clovis artifacts and are considered among the oldest human remains found in North America. Anzick's genetic profile has shown connections and shared ancestry with various Indigenous populations across the Americas.

Ancient individuals from Brazil (9,600 BP), Chile (12,000 BP), and a cave site in Nevada (10,000 BP) are more closely related to the Montana Anzick-1 boy than to later populations in the same regions or early individuals from the Central Andes or Peru.

Affinity to the Clovis culture individual persisted for many millennia more in the Chumash region of California than in any other sampled regions of the Americas.

Analysis of ancient individuals from Northwest Mexico suggested ancestry with the earliest people from Peru. This suggests that the Indigenous people from Mexico had a distinct (Peruvian) lineage that split from those in the Chumash region of California, Brazil and Chile pre-Montana Clovis culture 12,800 years ago.

Signs of migrations and mergers

Just before the occupation by Catholic Mission forts in California, the Chumash people lived in 150 independent towns and villages with a population of over 25,000 people. The Chumash spoke six different but closely-related Chumashan languages across the region. In-place genetic continuity among the Chumash people persisted from the earliest sequence (7200 years before present) until Spanish contact around 200 years ago. This stands as a distinct language and genetic history to the many surrounding area Uto-Aztecan speakers.

The Uto-Aztecan language family has long been a mystery, stretching from Shoshone in Idaho to Pipil in Costa Rica and covering the American Southwest down into Mexico. While the language is diverse, with dozens of distinct versions, the shared root of the language has puzzled researchers because it has yet to offer a precise location of origin.

There are many proposed homelands for Uto-Aztecan, including the Great Basin, California's central valley, the Sonora desert, Southern Arizona, and Central and Northern Mexico, with different linguistic and [archaeological evidence](#) for each model.

Using genetic clustering of individuals by geography and language with groups likely to have spoken Chumashan, Uto-Aztecan and Utian, the study finds evidence for large-scale movement of genetic lineages characteristic of ancient and modern individuals from Northwest Mexico into both Southern and Central California by at least around 5,200 years ago.

This result raises the possibility that this movement was responsible for spreading Uto-Aztecan languages and documents a significant migration period from the south before the spread of maize agriculture.

A robust genetic relationship was found between the earliest individual from Pacific Grove, Central California, dated around 5,200 years ago and ancient individuals from Baja California.

This result further supports the theory that people speaking languages from an earlier linguistic substrate were once dispersed across large parts of California and that populations of the region were transformed by new migrants who changed both the genetic and linguistic landscapes.

The Polynesian connection

There was no evidence of Polynesian or Australasian genetic contributions in ancient Californian and Northwest Mexican individuals. This dispels some past attempts to connect the Chumash people with those in Hawaii based on shared similarities in elements of the Chumash tomolo canoe construction.

Tomolo canoes are often built of redwood planks, lashed or sewn together, and can reach 30 feet long. The reasoning behind the Hawaiian contribution stems from the Chumash word for the canoe, tomolo'o, which is somewhat similar to the Hawaiian one for "useful tree" or redwood, kumulaa'au. Redwood was a favored wood for Hawaiian canoes, though it has to wash up on shore, carried by the favorable direction of winds and tides from California and the Pacific Northwest.

The Polynesian import idea ignores the fact that the Chumash inhabited the archipelago islands off the coast of California for over 7,500 years, a good 6,300 years before Hawaiians arrived in Hawaii and thousands of years before any Polynesian lived on an island. Even the technology specific to the canoe similarities predates the Hawaiian population by several hundred years.

With a lack of Polynesian genes in the Americas and having winds,

currents and chronology working against a Hawaiian visit to the Chumash coastal region, there may be no connection after all.

New World versus Old World

Some housekeeping is required whenever talking about ancient Native Americans. While the use of location names like Paso Robles and California are in this story, the time frames discussed include those long before these names were assigned to them by Europeans.

The study covers a time frame long before current Europeans arrived in Europe or developed a European [language](#) with which to later name locations in what European languages refer to as the "New World."

This a useful concept to keep in mind, considering the Americas are frequently cited in geographic and scientific literature as the "New World," despite having pyramids older than those in Egypt and evidence of civilizations that predate ancient Greece, China or any ancestry of a modern European in Europe.

More information: Nathan Nakatsuka et al, Genetic continuity and change among the Indigenous peoples of California, *Nature* (2023). [DOI: 10.1038/s41586-023-06771-5](https://doi.org/10.1038/s41586-023-06771-5)

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