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# Pacific Islanders Hold Ancient Genome Record and Denisovan DNA

## Description

The people of Near Oceania have a genetic history that dates back nearly 42,000 years, highlighting one of the earliest human expansions into the Pacific. A recent study reveals significant details about their genetic legacy, including a wealth of Denisovan DNA. Researchers discovered that the ancestors of today's Oceanians interbred with at least three different Denisovan-like groups, indicating a complex web of ancient interactions.

Around 42,000 years ago, humans reached what is now New Guinea, the Bismarck Archipelago, and the Solomon Islands. For thousands of years, these communities were isolated by sea and mountains, which limited their movement. This isolation led to the development of multiple languages, while, within their DNA, remnants of extinct human relatives persisted.

The study, published in *Science*, analysed 177 genomes from various Near Oceanian populations. This research found that these genomes contain some of the highest levels of archaic DNA globally, with Oceanians possessing about 2.5 times more than Europeans and significantly more Denisovan DNA than East Asians.

Denisovans, relatives of Neanderthals, are known primarily through genetic evidence rather than extensive fossils. The new findings suggest that Near Oceanians inherited gene sequences from multiple Denisovan-like populations, expanding our understanding of genetic interaction between ancient humans.

The implications of this study are numerous. It reveals that our ancestors did not merely replace their predecessors but intermingled with them. This interconnected history can also influence medical research, as current biobanks often overlook Oceanian genetic diversity, potentially missing important health-related variants.

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## Vocabulary List:

1. **genetic** //dʒə'netɪk// (adjective): about genes and how they are passed
2. **legacy** //'legəsi// (noun): things left by people or events from before
3. **interbred** //,ɪntə'brɛd// (verb): mated and had children with another group
4. **isolated** //'aɪsə,leɪtɪd// (adjective): kept apart from others by distance or barriers
5. **remnants** //'rɛmənənts// (noun): small parts left from something earlier
6. **archaic** //ɑr'keɪɪk// (adjective): very old and from long ago



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## Comprehension Questions

### Multiple Choice

1. How long ago does the genetic history of the people of Near Oceania date back?  
Option: 10,000 years  
Option: 20,000 years  
Option: 30,000 years  
Option: 42,000 years
2. What DNA did researchers find a wealth of in Oceanians?  
Option: Neanderthal DNA  
Option: Modern human DNA  
Option: Denisovan DNA  
Option: Archaic human DNA
3. Which publication featured the study on Near Oceanian genomes?  
Option: Nature  
Option: Cell  
Option: Science  
Option: Nature Genetics
4. How many genomes were analyzed in the study?  
Option: 177  
Option: 300  
Option: 150  
Option: 200
5. How much more archaic DNA do Oceanians have compared to Europeans?  
Option: 1.5 times  
Option: 2 times  
Option: 2.5 times  
Option: 3 times
6. What geographical areas did humans reach around 42,000 years ago?  
Option: Pacific Islands



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- Option: New Guinea, Bismarck Archipelago, Solomon Islands  
Option: Australia and New Zealand  
Option: South America

### True-False

7. Researchers found that the ancestors of modern Oceanians interbred with at least three different Denisovan-like groups.
8. Denisovans are primarily known through extensive fossil records.
9. The isolation of Near Oceanian communities led to a development of multiple languages.
10. Current biobanks often recognize Oceanian genetic diversity.
11. Near Oceanians inherited gene sequences from only one Denisovan-like population.
12. The study suggests our ancestors replaced their predecessors without intermingling.

### Gap-Fill

13. Around 42,000 years ago, humans reached \_\_\_\_\_ New Guinea.
14. Oceanians possess about \_\_\_\_\_ times more archaic DNA than Europeans.
15. The study revealed the presence of Denisovan DNA and \_\_\_\_\_ levels of archaic DNA globally.
16. The interconnected history can influence \_\_\_\_\_ research.
17. The study indicates that the ancestors of Oceanians did not merely replace their \_\_\_\_\_ but intermingled with them.
18. Remnants of extinct human \_\_\_\_\_ persisted within the DNA of ancient Oceanians.



## Answer

**Multiple Choice:** 1. 42,000 years 2. Denisovan DNA 3. Science 4. 177 5. 2.5 times 6. New Guinea, Bismarck Archipelago, Solomon Islands

**True-False:** 7. True 8. False 9. True 10. False 11. False 12. False

**Gap-Fill:** 13. what is now 14. 2.5 15. some of the highest 16. medical 17. predecessors 18. relatives

## CATEGORY

1. Sci/Tech - LEVEL4

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## Author

aimeeyoung99

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