

Dietary diversity in the Atacama desert during the Late intermediate period of northern Chile

Alfonso-Durruty, Marta P.

Gayo, Eugenia M.

Standen, Vivien

Castro, Victoria

Latorre, Claudio

Santoro, Calogero M.

Valenzuela, Daniela

The Pacific Ocean that flanks the hyperarid Atacama Desert of Northern Chile is one of the richest biomass producers around the world. Thus, it is considered a key factor for the subsistence of prehistoric societies (including mixed-economy groups), that inhabited its coastal ecosystems as well as the neighboring inland areas. This study assesses the Arica Culture groups' diet (Late Intermediate Period; 1000-1530 CE), through stable isotope (on bone-collagen; $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) and dental pathology data. Seventy-seven ($n = 77$) individuals from two inland (LLU54 and AZ8) and one coastal (CAM8) archaeological sites were studied. Results show an important, but lower than predicted by earlier studies, contribution of marine resources in the diet of all three groups. Dental pathologies and stable isotopes indicate that these groups' diet varied in correlation with their distance to the Pacific Ocean as well as group and individual preferences. The results challenge the idea that Arica Culture groups depended heavily on marine resources for their subsistence. In contrast, this study shows both that the Arica Culture groups' diet was diverse, and that the terrestrial resources consumed were mostly contributed by C3/CAM plants instead of maize.