
Building and Inhabiting Nan Madol: Integrating Phytolith, Plant Macroremain, and Sponge Spicule Data from Pahn Kadiria Islet

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Abstract

The Nan Madol site, located off the coast of Pohnpei, in the Western Pacific Ocean, is a complex of more than 100 artificial islets constructed between ca. 1500 and 500 BP. During this period, especially the latter half, it was the center of chiefly political power and home to the island's elites. Pahn Kadiria islet, an elite residential center and the location of the temple Nan Kieil Mwahu (Ayres et al 1983; 2015), is positioned as critical for understanding elite residential and ritual activity, as well as the evolution of architectural forms. Ayres and colleagues have conducted survey, excavation, and faunal analysis, producing information on islet spatial layout, construction technology, and elite ritual and diet for the islet. In this paper, we ask what analysis of sampled sediments can add about human diet, local vegetation, and islet construction. To this end, we analyze phytoliths, sponge spicules, and plant macroremains from bulk soil samples collected during the initial excavations. These data corroborate previous conclusions about islet construction patterns and show a clear presence of palm trees on the artificial islet by ca 1000 BP. This supports the interpretation of a long-term occupation at Pahn Kadiria, one showing multiple clear episodes of construction.

Keywords: Archaeology, Oceania, Nan Madol, Micronesia, Archaeobotany, Monumental Architecture

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