

THE APPLICATION OF PHYTOLITH AND STARCH GRAIN ANALYSIS TO  
UNDERSTANDING FORMATIVE PERIOD SUBSISTENCE, RITUAL, AND TRADE ON  
THE TARACO PENINSULA, HIGHLAND BOLIVIA

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ABSTRACT

This thesis employs microfossil data to add to our understanding of three factors (agricultural intensification, ritual, and trade) viewed as critical in the development of the Tiwanaku state during the preceding Formative period (1500 BC-AD 400). Comparative plant, and archaeological soil and artifact residue samples were analyzed in order to address the role of local subsistence plants, hallucinogenic and exotic species, and maize at four sites (Chiripa, Kala Uyni, Sonaje, and Kumi Kipa) located on the Taraco Peninsula in the Lake Titicaca basin (Bolivia). Evidence for local subsistence crops and hallucinogenic plants was constrained by a lack of available diagnostic phytoliths, but exotic plant indicators were uncovered in archaeological samples. Current phytolith methods for identifying maize were tested against the local flora, and a new method for maize identification was developed. Maize was discovered in artifact residues and soil samples, providing the earliest evidence for this crop in this region.