

Identifying crop plants with phytoliths (and starch grains) in Central and South America: a review and an update of the evidence.

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Quaternary International

Volume 193, Issues 1–2, 1 January 2009, Pages 146-159

Identifying crop plants with phytoliths (and starch grains) in Central and South America: A review and an update of the evidence

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<https://doi.org/10.1016/j.quaint.2007.11.011>

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Abstract

Research carried out during the past 25 years by a number of investigators has demonstrated that phytoliths from some important domesticated plants native to Central and South America can be identified. These plants include major seed crops such as maize (*Zea mays*), important vegetables such as squashes of *Cucurbita* spp., and now-minor root crops (e.g., *Calathea allouia* and *Maranta arundinacea*) that were probably more important in early pre-Columbian economies than they are today. In some cases, phytoliths can identify the wild ancestors of these plants. The New World patterns follow those demonstrated in other areas of the world—out of all of the domesticated species indigenous to a region, a few important ones (e.g., rice, bananas, wheat and barley) can be identified with their phytoliths. In this paper, I review identification criteria developed for New World plants, summarize the underlying

biological mechanisms that are now understood to account for phytolith formation and morphology, and discuss recent archaeological applications and new data from the Central and South American tropical forest. I will also mention the growing importance of starch grain analysis in archaeology with regard to recovering and identifying the remains of wild and domesticated species, including maize and teosinte. Phytoliths and starch grains are turning out to be highly complementary types of studies, and are increasingly being applied together.



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