

Pots, Plants and Pacific Prehistory

Taro residues on Lapita pottery from Anir, New Ireland

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Introduction

"There is little evidence for the many subsistence models that have been developed for [Pacific] prehistory" (Hather 1994:61).

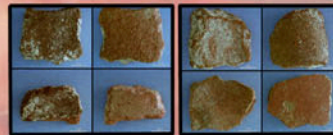
It has long been argued on the basis of converging lines of archaeological, ethnographic and linguistic evidence that root crops such as *Colocasia esculenta* (taro) (Figure 1) have a long history of use in the Pacific. As yet, however, few botanical remains have been found to lend support to this hypothesis (cf. Loy *et al.* 1992). This poster presents microbotanical evidence for taro processing found on Lapita pottery from Anir, New Ireland, dating to c. 3300BP.



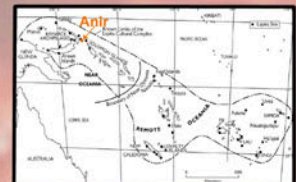
1. *Colocasia esculenta*

Background

A sample of 20 undecorated sherds (Figure 2) from the Early Lapita site, Kamgot, Anir Group, New Ireland (Figure 3), was analysed for surface residues using microscopy.



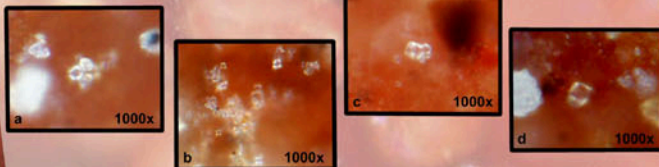
2. Examples of sherds examined in this study.



3. Map of the Southwest Pacific showing distribution of Lapita sites and location of Anir, New Ireland (after Kirch 1997:54).

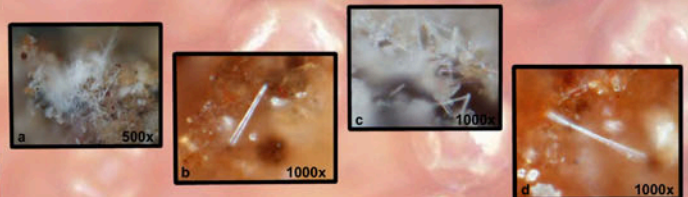
Results

Small starch grains (Figure 4) and raphides (Figure 5) were observed on all artefacts. On 9 sherds, the grains were cooked.



4a-d. Examples of starch grains (1µm - 6µm) observed on surfaces of potsherds. Note the cooked grains with diffuse extinction crosses in a and d.

Results (cont)



5. Examples of raphides (needle-shaped calcium oxalate crystals) on potsherds from Kamgot. Raphides are common to members of the Araceae family, to which *C. esculenta* belongs.

Using Loy *et al.*'s (1992) starch differentiation method, the residues were identified as *Colocasia esculenta*.

Discussion

The observed residues represent the first direct evidence for the use of taro by Lapita peoples and corroborates other archaeological and linguistic evidence for this phenomenon. The result is underpinned by *C. esculenta*'s key ethnobotanical role in Melanesia and its attested use 28 000 years ago in the Solomon Islands (Loy *et al.* 1992). Further, while aroids are more commonly baked in earth-ovens today, the use of pottery to undertake this task in prehistory has been attested to by this study. This research demonstrates that the examination of ceramic artefacts can contribute to understanding early plant processing and consumption in the Pacific.

References

- Hather, J. (1994) The identification of charred root and tuber crops from archaeological sites in the Pacific. In J. Hather (ed.) *Tropical Archaeobotany: Applications and New Developments*, pp. 51-65 Routledge: London
- Kirch, P. V. (1997) *The Lapita Peoples: Ancestors of the Oceanic world* Blackwell Publishers: Cambridge.
- Loy, T. H., M. Spriggs and S. Wickler (1992) Direct evidence for human use of plants 28 000 years ago: Starch residues on stone artefacts from the northern Solomon Islands *Antiquity* 66(253):898-912

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