

Phytoliths and the Evidence for Banana Cultivation at the Lapita Reber-Rakival Site on Watom Island, Papua New Guinea

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ABSTRACT. Analysis of phytoliths in sediments from Kainapirina (SAC) locality in the Reber-Rakival Lapita site on Watom Island, East New Britain Province, Papua New Guinea, directly confirms and expands on the types of terrestrial plants, both domestic and natural, identified in the cultural and ashfall deposits of c. 400 cal. B.C. to A.D. cal. 650 found at the site. A significant new finding is that evidence for banana cultivation throughout that period can be associated with both former and additional confirmatory evidence for the growing of coconut and *Canarium* nut trees plus a range of new plants. Gardening activity alternating with fallow is also strongly suggested by the types of natural tree cover at the conclusion of that occupation sequence and the garden soils lying just below the primary seventh century A.D. Rabaul volcanic ashfall.

Taken with the hypothesized existence of pig husbandry, which is based on a previous analysis of faunal remains, as well as information about diet derived from the study of stable isotopes and trace elements present in the human bones from the burials, there is a strong case that arboriculture and horticulture formed a major component of the late-Lapita and immediately post-Lapita economy at this site.

LENTFER, CAROL J., & ROGER C. GREEN, 2004. Phytoliths and the evidence for banana cultivation at the Lapita Reber-Rakival Site on Watom Island, Papua New Guinea. In *A Pacific Odyssey: Archaeology and Anthropology in the Western Pacific. Papers in Honour of Jim Specht*, ed. Val Attenbrow and Richard Fullagar, pp. 75–88. *Records of the Australian Museum, Supplement 29*. Sydney: Australian Museum.

In 1965, some 56 years after Father Otto Meyer's early twentieth century investigations and report on the Reber-Rakival Lapita site on Watom Island (Anson, 2000a), Jim Specht began the long process of establishing its present-day credentials as an important site among those with Lapita style pottery. Despite the use of modern archaeological

excavations and analytical methods (Specht, 1968, 1969), only recently has Reber-Rakival's true value as a late-Lapita site (Green & Anson, 2000a) within the widespread Lapita horizon (Kirch, 1997: 203–212) begun to be really appreciated. We offer this paper as a tribute to Specht who first identified the SAC locality of Kainapirina within the