

# The Question of Early Lapita Settlements in Remote Oceania and Reliance on Horticulture Revisited: New Evidence from Plant Microfossil Studies at Reef/Santa Cruz, south-east Solomon Islands

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**ABSTRACT.** Since the earliest discoveries of Lapita sites in Remote Oceania there has been ongoing debate about the nature of Pacific island colonisation. In the 1970s, based on the archaeological material from the SE-RF-2 and SE-RF-6 sites on the Reef Islands in the SE Solomons, Roger Green proposed that early Lapita communities there must have relied on horticulture as the mainstay of subsistence. Our analyses of phytoliths and starch in sediments and on pottery has found evidence for burning, food preparation and cooking in conjunction with a suite of wild and domesticated plants indicative of horticulture. Starch and phytoliths from seeded *Australimusa* (syn: *Callimusa*) bananas as well as domesticated *Eumusa* (syn: *Musa*) bananas were recovered, as well as *Colocasia esculenta* (taro) starch, and *Metroxylon* sp. (sago palm) phytoliths. Hence, Green's early hypothesis finds support, but more analyses, together with more precise dating are needed to clarify the time taken to establish sustainable horticulture. The importation of selected plants is confirmed, with potential sources being the Bismarck region or stop-over islands along the way. This was followed by ongoing on-site breeding and/or new introductions from further human migrations into the region and establishment of trade and exchange networks.

## Introduction

After a formative period marking the emergence of the 'Lapita Cultural Complex' in the Bismarck Archipelago ca 3400 cal. BP (Denham *et al.*, 2012: 44; Specht *et al.*, 2014; Sheppard *et al.*, 2015; Sheppard, 2019; cf. Specht and Gosden, 2019: 188, where a much later start date of 3250–3150 cal. BP is considered), there was a rapid demographic expansion into Remote Oceania, reaching the Southeast Solomons, Vanuatu and New Caledonia within a few generations at most, and Fiji, Tonga and Samoa soon after (Bedford *et al.*, 2019: table 1.1; Sheppard *et al.*, 2015). The nature of this migration has long been debated. At one extreme, models advocate a

wave of advance and strand-looping across the region with a reliance on local resources for subsistence (e.g., Groube, 1971; Anderson, 2003; and see Davidson and Leach, 2001; Sheppard, 2019). At the other, leapfrogging scenarios are envisaged, entailing initial long haul voyages from the Bismarcks more-or-less directly across to the Reef/Santa Cruz Islands by groups of migrants carrying a suite of commodities including obsidian, pottery, domestic animals and subsistence plants, intended to facilitate settlement on new islands (Sheppard and Walter, 2006; Walter and Sheppard, 2009; Sheppard, 2011, 2019; Sheppard *et al.*, 2015). Given the bulk of evidence for the presence of exotic cultigens including bananas, taro and yam at sites in Vanuatu, Fiji, Samoa and

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