Title: Lapita and later archaeology of the Malolo and Mamanuca Islands, Fiji

Authors: Ethan E. Cochrane[1], Sepeti Matararaba[2], Elia Nakoro[2]

Affiliations:
[1]University College London, Institute of Archaeology, 31-34 Gordon Square, London, WC1H 0PY, UK

[2]Fiji Museum, Pre-History Archaeology Department, PO Box 2023, Government Buildings, Suva, Fiji Islands

The first populations in Fiji arrived approximately 3000 BP. These people made and used Lapita pottery and the similar decorative styles found in Fijian Lapita assemblages indicate widespread interaction or cultural transmission across the archipelago. Although a general picture of prehistoric cultural transmission in Fiji is emerging (e.g., Clark and Murray 2006), detailed patterns of transmission within and between populations are less well known. Within the Yasawa Islands of western Fiji (Figure 1) previous research indicates widespread cultural transmission after colonization at approximately 2700 BP, approximately 300 years later than the colonization of other Fijian islands. This spatially expansive cultural transmission lasted until 1000 BP after which time the spatial scale of transmission contracted and competition between human groups seems to have increased (Cochrane and Neff 2006).

During June and July 2006 a team from the University College London Institute of Archaeology and the Fiji Museum conducted the first archaeological work in the Mamanuca and Malolo Islands in the southwest of the Fijian archipelago. The goal of this exploratory fieldwork was to generate preliminary data to address questions arising from previous research in the nearby Yasawa islands including: are there Lapita occupations in the Malolo and Mamanuca islands and, like the Yasawas, do these occur relatively late compared to the rest of Fiji; does the ceramic record indicate Malolo and Mamanuca populations interacted with other Fijian populations; and, are there defensive sites or other evidence of human competition in this part of Fiji?

We conducted extensive pedestrian survey of four islands, Malolo, Yanuya, Tavua, and Monu. Ten sites were identified based on landscape features (e.g., house mounds) as well

as surface and subsurface artifact scatters (Table 1). Three sites appear to be defensive based on their hilltop or generally inaccessible location (K27-3, -6, and -10). A fourth defensive site (K27-2) located on a coastal terrace is defined by an annular ditch (approximately 100 m in diameter , up to 2 m deep and 15 m wide) with a raised bank around the outside. Four earth causeways crossing the ditch are equally spaced around the perimeter. Several stone-faced earth platforms, likely post-occupation burials, are located at the northern end of the site. This site is similar to others found throughout Fiji known as ring-ditches. The inhabitants of site K27-2 would have had an unrestricted view of another ring-ditch site (Y2-22) on the southern coast of Waya Island to the north.

Subsurface testing included hand-driven auger cores generally placed along transects perpendicular to coastal terraces. The goals of coring were to locate anthropogenic paleobeach deposits and generate preliminary data on coastal landform evolution. Three areas were chosen for controlled test excavation (single 1 x 1 m units): sites K27-1, -4, and -6. Subsurface deposits at site K27-1, a tavioka garden near Solevu village on Malolo Island, include a single lithic flake and small amounts of ceramics (n = 766) recovered from the surface to the water table at 2.6 m where excavation ceased. Approximately 12% of the ceramic assemblage consists of decorated forms, mostly various types of carved-paddle impressing common in Fiji. The prevalence of carved-paddle impressed designs indicates these deposits date very generally to the first millennium AD. Stratigraphy at the site and preliminary geoarchaeological analyses suggest a continuous wetland environment with depositional inputs from wave action and wind with soil horizons forming only in the upper deposits. Subsurface deposits at K27-1 likely represent relatively low-intensity human activity.

Subsurface deposits at K27-6, within the single existing village on the island of Yanuya, also contain ceramics (n = 1970) and small amounts of bone and shell with 97% of the ceramic assemblage recovered from the top 0.4 m of excavation. Less than one percent of the ceramic assemblage is decorated with only a few carved-paddle impressed and incised sherds present. The upper 0.5 m of deposit is loamy sand with culturally sterile coarse sand below this depth. The coarse sand layer is penetrated by crab and root holes that contain sherds and shell. Deposits at K27-6 likely represent the last 100-200 years of habitation in the area.

At nearby Tavua Island, excavations behind Tavua Village at site K27-4 on a broad coastal terrace uncovered 1.4 m of cultural deposit with ceramics (n = 1705), lithics, shell midden, and other artifacts. The ceramic assemblage includes dentate Lapita designs on seven

sherds (Figure 2) from the deeper excavation levels, 0.87-1.16 m below the surface. Plain ceramics, bone, and shell were found up to 1.36 m deep. Three AMS analyses on charcoal and one on shell date the site occupation. Charcoal recovered from the deepest cultural level returned a date of 3075-2864 cal. BP (2σ, AA-73316) while charcoal from the lowest level containing Lapita decorated sherds returned a date of 2870-2740 cal. BP (2σ, AA-73315). Carbonized residue on a sherd from the upper Lapita levels (approximately 0.87-0.97 m below surface) was dated to 2749-2489 cal. BP (2σ, AA-73317). A *Tridacna* sp. shell from 0.47-0.57 m below surface produced a date of 2680-2380 cal. BP (2σ, Wk-20392). The post-Lapita levels contain small amounts of decorated ceramics (about 2% of all ceramics) including carved-paddle impressed, incised, and punctated forms found across Fiji. Field analyses of stratigraphy and sediments suggest the deposit at site K27-4 represent continuous habitation and primary deposition of artifacts.

The results of our 2006 field work and preliminary analyses indicate that the Malolo and Mamanucas islands were likely colonized slightly earlier than the Yasawa islands to the north (see Cochrane 2004), but still approximately 200 years after other areas of Fiji. Furthermore, the earliest inhabitants of site K27-4 used multiple Lapita motifs (see Figure 2), while previously only a very simple, single Lapita motif had been found in the Yasawas Islands(simple arcs on a vessel lip, Motif 1 in Mead et al. [1973]). The presence of several Lapita motifs on Tavua Island, also found in similarly dated deposits across Fiji and Tonga, confirms that the far western Fijian islands were part of a larger cultural population spanning Fiji and West Polynesia. The occurrence of typical Fijian ceramic decorations in post-Lapita deposits of the Mamanuca and Malolo Islands indicates some degree of continued interaction and transmission within a Fiji-wide population. Finally, the high proportion of defensive sites suggests common processes leading to similar competitive strategies found throughout Fiji.

Acknowledgements

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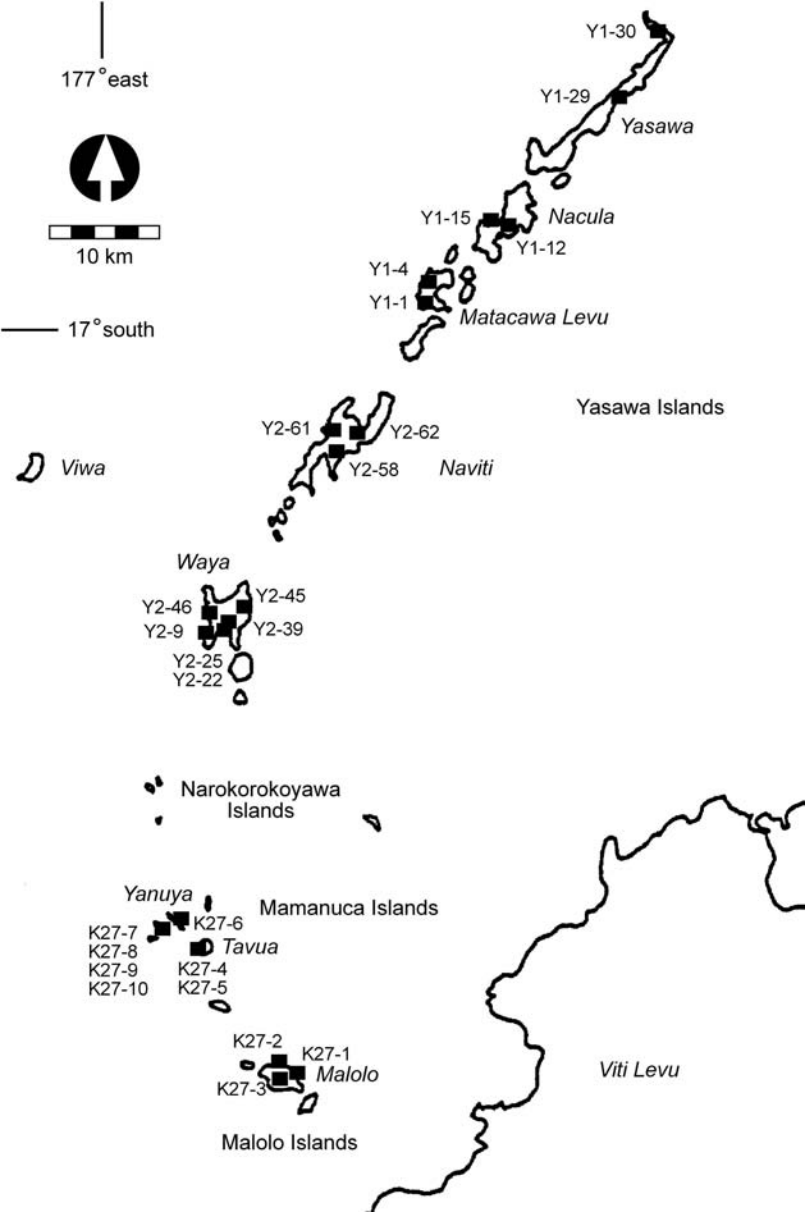
Figure captions

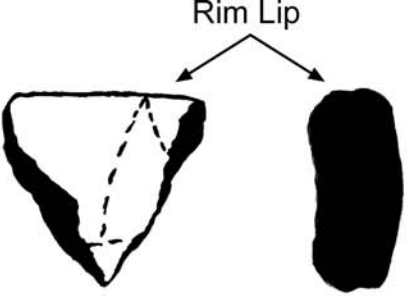
Figure 1. Map of the western Fiji Islands showing major archaeological sites of the Yasawa Islands (see Cochrane 2004) and newly reported sites of the Mamanuca and Malolo Islands. Island names italicized.

Figure 2. Examples of decorated Lapita ceramics recovered from site K27-4 (Tavua Village). Motifs from Mead et al. (1973).

Table 1. Archaeological sites of the Malolo and Mamanuca Islands identified in 2006.

Site Number	Name	Landform, Primary Use Category
K27-1	Solevu	surface and subsurface ceramic deposit, low intensity human activity
K27-2	Navasua	annular ditch and bank defensive habitation, platforms, surface ceramics
K27-3	Uluisolo	terraced hilltop with United States military structures (WW II), surface ceramics (prehistoric)
K27-4	Tavua Village	beach flat occupation with subsurface ceramics (including Lapita), midden, and other artifacts
K27-5	Tavua Ridge	modified ridgetop with earth platforms, surface ceramics
K27-6	Yanuya Village	beach flat occupation with subsurface ceramics and midden
K27-7	Qwaqwa	rockshelter with surface and subsurface ceramics, midden and other artifacts
K27-8	Kasa	beach flat habitation with 3 house mounds
K27-9	Onedare	beach flat habitation with 4 house mounds, platform with stone upright and surface ceramics
K27-10	-	upland defensive habitation with approximately 7 house mounds, surface ceramics


177°east
10 km
17°south
Y1-30
Y1-29
Yasawa
Y1-15
Nacula
Y1-12
Y1-4
Y1-1
Matacawa Levu
Yasawa Islands
Y2-61
Y2-62
Viwa
Y2-58
Naviti
Waya
Y2-46
Y2-45
Y2-9
Y2-39
Y2-25
Y2-22
Narokorokoyawa Islands
Yanuya
Mamanuca Islands
K27-7
K27-6
K27-8
Tavua
K27-9
K27-4
K27-10
K27-5
K27-2
K27-1
Malolo
K27-3
Malolo Islands
Viti Levu



Motif 16

Motif 18 (?)

Motif 76

Motif 15