NEW ZEALAND
ARCHAEOLOGICAL
ASSOCIATION

ARCHAEOLOGY IN NEW ZEALAND

THE EVOLUTION OF COMPETITIVE SETTLEMENT STRATEGIES IN FIJIAN PREHISTORY: RESULTS OF EXCAVATIONS AND RADIOMETRIC DATING.

Julie S. Field
University of Hawai'i, Manoa
Waikato Radiocarbon Dating Fund recipient 2001

A series of excavations were completed between June 2001 and March 2002 in the Fiji Islands. The goal of this research was to investigate the evolution of competitive settlement strategies in Fijian prehistory from an archaeological and evolutionary ecological perspective. Twelve sites were excavated and mapped in the Sigatoka Valley, located in the southwestern corner of the main island of Viti Levu. Excavations were focused on determining the chronology of fortifications in the region, and the collected samples were compared to expectations based on GIS-based analyses of land productivity and historical documents pertaining to late-period warfare (Field 1998, 2002). Over four hundred archaeological sites have been identified in the Sigatoka Valley, and of these roughly one-third are purely defensive in configuration, with no immediate access to water or arable land. The Waikato Archaeological Dating Fund provided four radiometric dates for three defensive sites, and one site associated with a production area.

Tatuba Cave (VL 11/14), a defensive site, was investigated with a 1 x 1m unit to a maximum depth of 1.9 meters. Located within an extensive system of walls and house foundations that encircle a limestone outcrop, this cave is further fortified with a rock wall across its entrance. Excavation produced a very large quantity of ceramics, shell, bone, and ornaments. Several charcoal lenses were encountered in the first 600 mm, including Feature 1, at a depth of 450–550 mm. A charcoal sample from this feature yielded a date of 968 ± 52 BP (Wk-11137). This date corroborates findings from research conducted by the Fiji Museum at the cave in 1972, which produced a date of 1000 ± 70 BP from 63

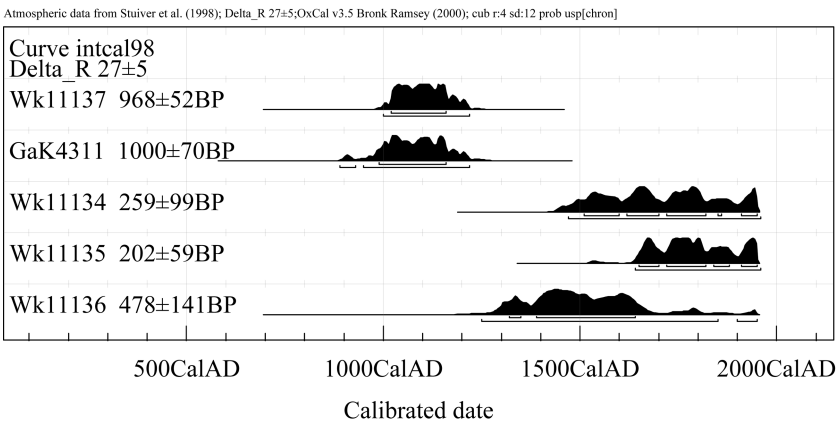

Figure 1. Calibrated radiocarbon ages for dates mentioned in text. All determinations were calibrated using the terrestrial calibration curve of Stuiver *et al.* (1998), with 27 ± 5 years subtracted from the CRA to account for the southern hemisphere offset in ^{14}C (McCormac *et al.* 1998). Error bars denote 1 and 2σ deviations.

cmbs (GaK 4311). Dates from presumably earlier deposits in Tatuba Cave are forthcoming.

Two other fortified sites located in the middle section of the Sigatoka Valley yielded roughly contemporaneous dates of late prehistoric age. Several excavations were performed at the site of Qoroqorovakatini (VL 16/32), located on top of the monumental Naqalimare limestone outcrop. The excavation of a house-mound (yavu) on this site produced the date of 259 ± 99 BP (Wk-11134). The nearby site of Bukusia (S398) was also investigated, and excavations performed at house foundations and also a large rubble wall that encircled the site. Charcoal extracted from under the base of the wall yielded a date of 202 ± 59 BP (Wk-11135). Both sites, Qoroqorovakatini and Bukusia, are known from historical documents as rebel strongholds during the "Little War" of 1876, when government forces invaded the area. Historic artifacts, including ceramics, glass, and a potential gunflint were recovered from these sites.

Lastly, the site of Korokune (VL 16/13), a large fortification that overlooks the coastline and has access to prime growing land, was investigated with two excavation units. The excavation of a house-mound produced a large amount of ceramics and shell, and also several post-hole features. A charcoal sample from

the deepest post-hole yielded a date of 478 ± 141 BP (Wk-11136). Despite the large standard error because of the small sample size and the possibility of old wood being used in house beams, it is quite possible that the site of Korokune indeed dates to the centuries immediately prior to the contact period. Oral histories link this site to the descendents of Finau Maile Latumai, an exiled Tongan chief who settled in the Sigatoka Valley circa AD 1750 (Parry 1987: 42). Additional dates from other portions of the site may provide more exact chronological data.

Although four dates provide only the smallest glimpse into the chronology of prehistoric competition, they do indicate that the earliest occupation of the Sigatoka Valley occurs around AD 1000, in a cave that may have also been fortified at that time. In the rest of the Sigatoka Valley the practice of fortification building appears most common in the late prehistoric period (ca. AD 1700–1875). Additional chronological data are forthcoming from other excavations in the region, which will shed light on where and when competition and fortification building was most favored. These data should also test several hypotheses concerning the evolution and persistence of competition and warfare in prehistoric Fiji.

Acknowledgments

I have many to thank. This research was funded by the National Science Foundation (NSF BCS01-06221), and the Honolulu Branch of the AAUW. Additional funding by the Waikato Radiocarbon Dating Laboratory was greatly appreciated. Assistance was also provided by the staff of the Fiji Museum, the Nadroga/Navosa Provincial Office, and the citizens of Nadroga and Navosa. All of their help was greatly appreciated.

References

Bronk-Ramsey C., 2000. OxCal program v3.5. Oxford Radiocarbon Accelerator Unit.

Field, J.S., 1998. Natural and Constructed Fortifications. *Asian Perspectives*, 37(1): 32-58.

Field, J.S., 2002. GIS-based Analyses of Agricultural Production and Habitation in the Sigatoka Valley, Fiji. In, T. Ladefoged and M. Graves (eds.), *Pacific Landscapes: Archaeological Approaches*. Easter Island Foundation, Los Osos.

McCormac, F.G, A.G. Hogg, T.F.G. Higham, J. Lynch-Steiglitz, W.S. Broecker, M.G.L Baillie., J.G. Palmer, L. Xiong, J.R. Pilcher, D. Brown and S.T. Hoper, 1998. Temporal variation in the interhemispheric ^{14}C offset. *Geophysical Research Letters* 25(9):1321–4.

Parry, J., 1987. The Sigatoka Valley: Pathway Into Prehistory. *Bulletin of the Fiji Museum*, 9. The Fiji Museum, Suva.

Stuiver, M., P.J. Reimer, E. Bard, J.W. Beck, G.S. Burr, K.A. Hughen, B. Kromer, F.G. McCormac, J. van der Plicht, and M. Spurk, 1998. INTCAL98 Radiocarbon age calibration, 24 000–0 Cal AD. *Radiocarbon* 40:1041–1083.