

Research Reports

Prehistoric Settlement at Anaho Bay, Nuku Hiva, Marquesas Islands: preliminary observations

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Abstract

Anaho Bay on the northwest coast of Nuku Hiva Island, Marquesas is a deep well-protected bay that is distinguished by its sizeable coral reef. A small number of test excavations were carried out at two localities. We identified an extensive buried cultural layer along the northern shore at Teavau'ua (AHO-1), dated to ca. the mid-15th century AD. Activities here included production of pearlshell fishhooks and basalt adzes, as well as more generalised domestic functions. We also identified short-term occupations dating to post-1650, and possibly earlier, at the more southern locality of Teonepoto (AHO-2).

The Marquesas Islands have figured prominently in discussions of East Polynesian colonization, both as an early settlement locality and as a source area for subsequent dispersals (e.g., Sinoto 1970). The chronology of Marquesan settlement, with estimates of colonization ranging from 1000 to 2000 BP, is important not only to regional cultural histories but also to understanding processes of adaptation, rates of human impact on fragile insular environments, and cultural differentiation. Recently, the antiquity of Marquesan settlement has been seriously questioned. This has resulted from systematic reappraisal of the regional radiocarbon database (Spriggs and Anderson 1993), re-dating of early sites elsewhere in the region (Anderson 2000), and renewed excavations at the key Marquesan locality of Ha'atuatua (Rolett and Conte 1995; Suggs 1961; see also Figure 1). Limited testing at Anaho Bay, Nuku Hiva Island (Figure 1) was undertaken in 1997 with these chronological issues in mind. Well watered, protected, and with the archipelago's largest coral reef, Anaho may have been a prime locality for early colonists.

We were also interested in how settlement at Anaho might relate to those known from the neighboring valleys of Ha'atuatua (Rolett and Conte 1995) and Hatihe'u (Millerstrom 1997; Ottino 2000). Numerous surface arti-

facts along the northwestern shores of the bay suggested a prehistoric community here of some size, or possibly sequential occupation over an extended period of time. Both this area, Teavau'ua (AHO-1), and another locality where early occupation seemed likely, Teonepoto (AHO-2), were selected for testing (Figure 1).

Excavations

Teavau'ua (AHO-1)

The Teavau'ua (literally "pass of the Giant Trevally") coastal flat is bisected by a spring and its drainage. The area is planted in mature coconut trees and worked pearlshell (*Pinctada* sp.), basalt debitage, fishhooks, and coral tools have been brought to the surface by land crabs. Notably, pearlshell inhabits the local reef and abundant flakes and adze performs suggest a nearby source of basalt. Testing was focused north of the spring, in a level area of roughly 200m east-west by 140m north-south (Figure 2). The excavations included two shovel pits (not screened) and three 1m² stratigraphically-controlled test pits (screened with 1/4 and 1/8 inch mesh), as well as one 50cm² unit that sampled an oven feature exposed in a modern trash pit wall.

A fairly consistent stratigraphy was found over the area tested, with two cultural layers separated by a storm layer. Layer I is a dark gray loamy sand, 10 cm thick, mainly with historic artifacts. Layer II represents a large-scale storm event. Layer III is a very dark gray to black sandy loam, ca. 40 cm thick, with some historic materials in the upper few centimeters but mainly traditional Marquesan artifacts; most of the surface artifacts are attributable to this buried cultural horizon. Layer IV, a yellowish-brown sterile sand, rests on rock which probably is the basal reef platform.

Two radiocarbon samples were analyzed (Table 1). One from an oven feature within Layer III (BETA-108023) dated to cal AD 1400 to 1650 (two sigma) with a mid-point at 1450. A second oven sample (BETA-108024) dated to post cal AD 1680. The earlier date is broadly consistent with Rolett and Conte's (1995; see also Rolett 1998:49–53) findings from Ha'atuatua where they suggest the main settlement period was between AD 1300 and 1650.

Pearlshell and fine-grained basalt debitage dominate the Teavau'ua artifact assemblage. Six unfinished and twelve finished pearlshell hooks and fragments were recovered, along with copious amounts of manufacturing debris. All complete examples are jabbing hooks, where the point parallels the shank. They range in size from 11.6 to 31.7 mm long, with a mean length of 15.9 mm ($N=7$). The small size of the specimens is notable and they were most likely used in some form of hand-lining, possibly a technique using multiple hooks. Many of the archaeologically recovered fish could have been caught with small baited hooks, including groupers and rock cod (Serranidae), soldierfish and squirrelfish (Holocentridae), and wrasses (Labridae).

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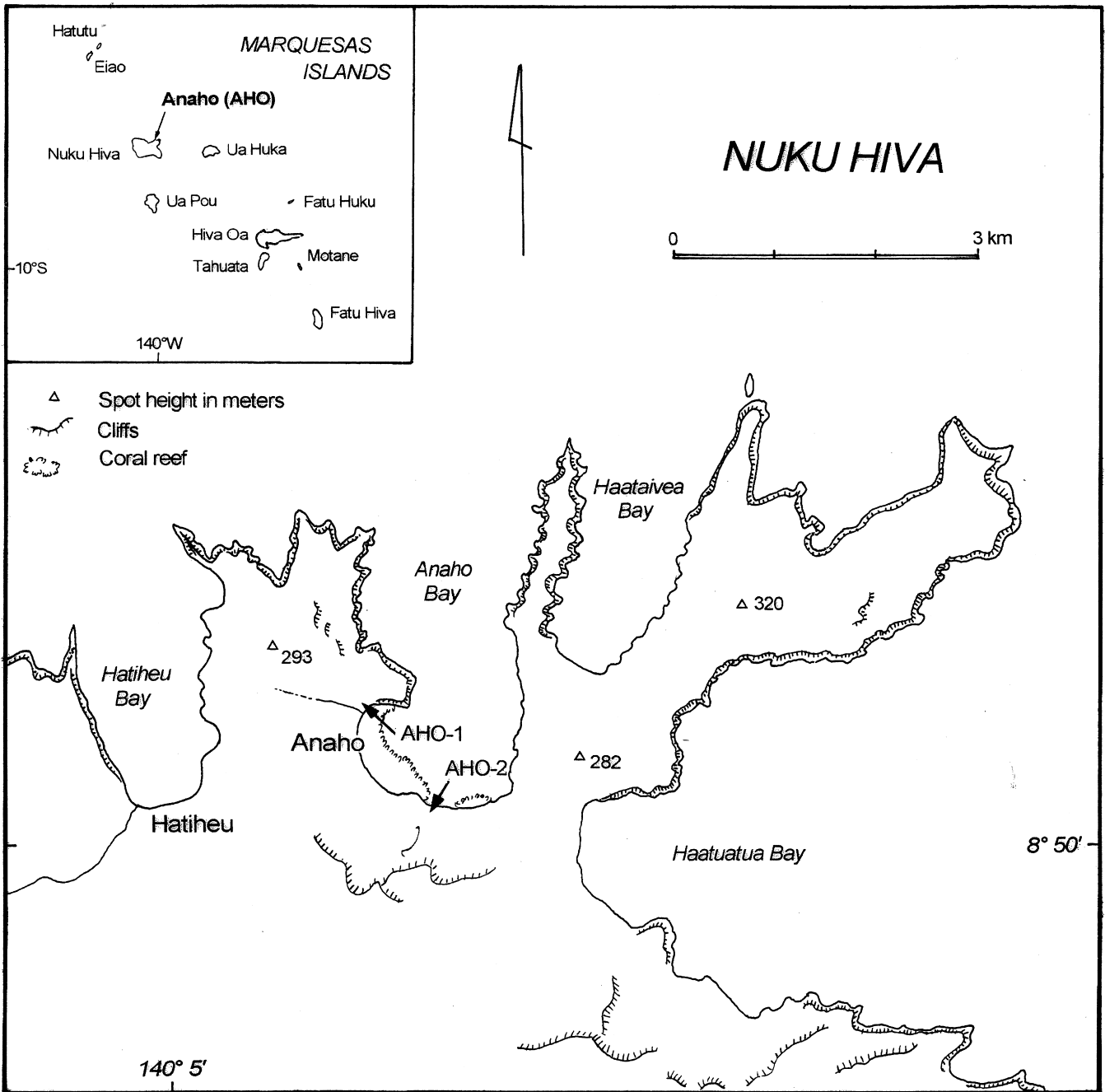


Figure 1. Anaho Bay, Nuku Hiva Island, Marquesas

The burnt end of a two-piece hook point base, with two perforations for attachment to the shank, was also recovered. It approximates Suggs' (1961:83-4) "Incipient Proximal Extension Point," a form known in the Marquesas only from Ho'oumi Valley to the south but historically recorded from the Tuamotu Islands. Also of interest is a large point with an inner barb, similar to Suggs' (1961:81) "heavy shank hook" that was most common in post-1100 AD contexts. While hooks with thick shanks have been observed elsewhere, Rolett (1998:151) suggests that barbed forms are restricted to Nuku Hiva. Overall the fishhook styles are consistent

with the late prehistoric radiocarbon dates (see Suggs 1961; Rolett 1998).

Porites coral abraders were also common and probably used in fishhook manufacture (see Allen 1992; Rolett and Conte 1995:218, 220). Most are lenticular in cross-section, roughly triangular in plan view, and have two or more facets. While similar in overall morphology, the specimens are quite variable in size. Also notable are two bone cylinders fashioned from immature pig femora.

Fish numerically dominate the Teavau'ua vertebrate fauna. Fifteen families were recorded, with pufferfish (Diodontidae), parrotfish (Scaridae), and groupers and

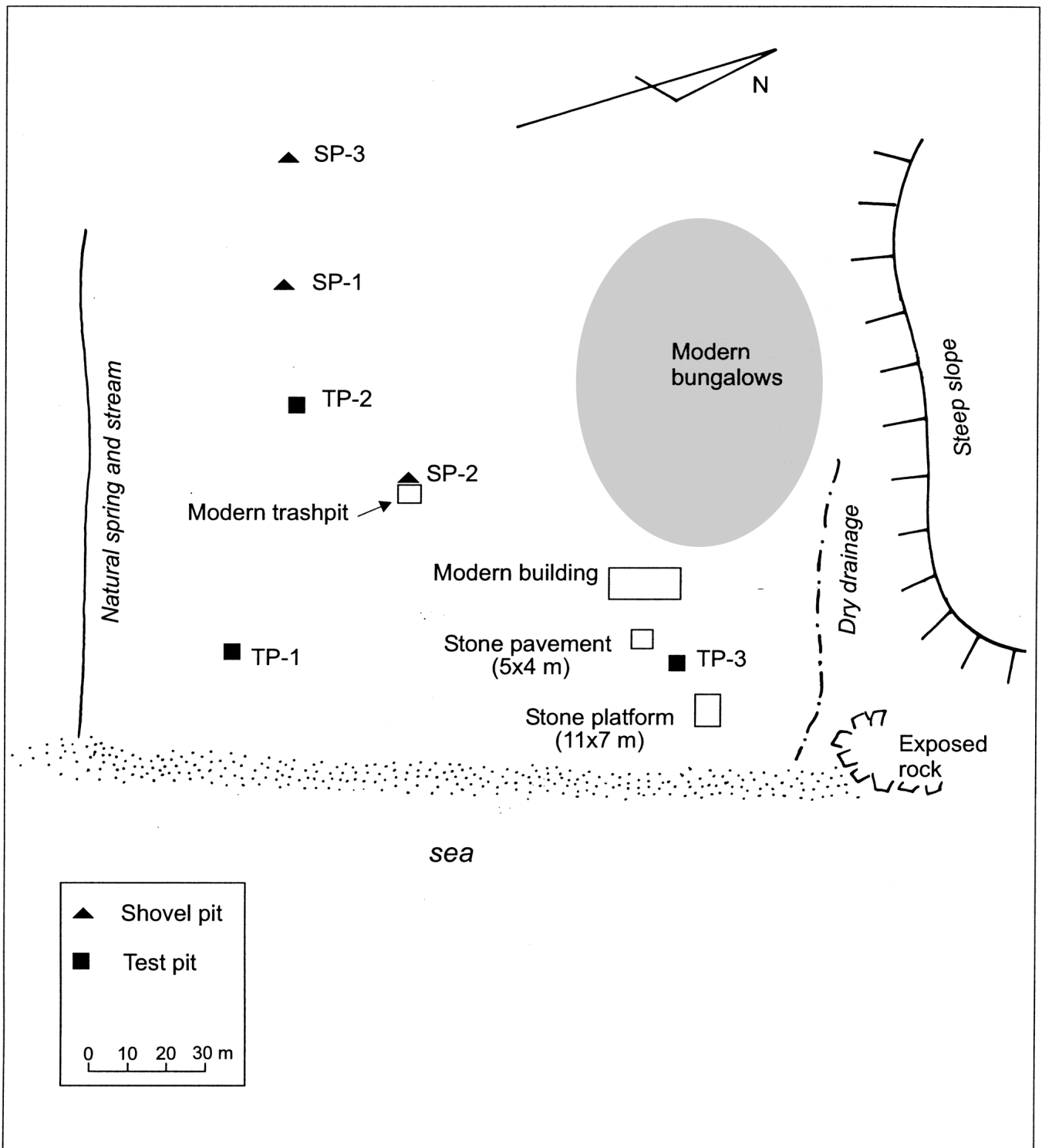


Figure 2. Location of the Teavau'ua test units

rockcod (Serranidae) being the most common. Overall, a strong inshore focus is indicated. Pig and small amounts of rat, sea mammal and turtle were also recovered. Twenty-five molluscan taxa were identified, along with sea urchin (Echinodermata). Common taxa include *Turbo*, *Nerita*, *Cypraea*, *Conus*, and *Codakia*. Three taxa, Pectinidae, *Asaphis*, and *Theodoxis* were restricted to Layer III.

Teonepoto (AHO-2)

The locality of Teonepoto (literally "short beach")(Figure 1) consists of a ca. 100 m stretch of beach adjacent to a semi-permanent stream. Inland is a narrow, steep-sided valley with limited traditional agricultural terracing and stone house platforms. Two beach dunes were apparent here. One shovel pit and two 1 x 0.5 m² test pits were

Sample No.	Provenience	Conventional C14 Age BP	C13/C12 (‰)	Calibrated AD age at 1 sigma (intercept)
<i>Teavau'ua (AHO-1)</i>				
Beta-108023	SP-2 III	430 ± 80	-26.8	1425 to 1515 & 1585 to 1625 (1450)
Beta-108024	TP-3 III/5	50 ± 60	-29.8	1825 to 1835 & 1880 to 1915 (no intercepts)
<i>Teonepoto (AHO-2)</i>				
Beta-110454	TP1 II/4	180 ± 50	-28.4	1665 to 1695; 1725 to 1815; 1920 to 1950 (1675, 1770, 1800, 1940)

Table 1. Radiocarbon Determinations. All samples are on wood charcoal. Calibrated results as provided by Beta Analytic Inc. (1997).

placed along the top of the inland, and presumably older, dune. The test pit sediments were water-screened through 1/4 and 1/8 inch sieves.

Two cultural layers resting on dark yellowish brown sand were exposed in excavation. Layer I is a very dark grayish brown sandy clay loam, ca. 20–30 cm thick, with infrequent cultural materials. Layer II is a very dark brown clay loam, ca. 20–25 cm thick, also with cultural materials. Several small scoop-hearths were exposed within these two strata. Layer III was sterile. A radiocarbon sample from Layer II (BETA-110454) dated to post cal AD 1650 (Table 1).

Artifacts were concentrated in Layer II. Although few in number they are varied. They include pearlshell fishhooks and manufacturing debris, basalt debitage, a coral abrader, a nearly complete cowrie (*Cypraea*) shell vegetable peeler, a drilled sea mammal tooth, and cut bone. In general, the recovered materials suggest varied tool manufacturing activities took place here, including limited production of shell fishhooks, basalt tools, and food preparation tools.

Few faunal remains were recovered, with inshore fish predominating. Among the avifaunal remains are small amounts of petrel/shearwater (Procellariidae) and tern (Sterninae). Marine invertebrates include sixteen molluscan taxa and sea urchin (Echinodermata). The species list is similar to that of Teavau'ua, with the addition of *Terebra* and *Bursa*.

Discussion

Widely distributed surface artifacts and our test excavations indicate occupation over much of the coastal flat at Teavau'ua (AHO-1). It is not yet possible to say whether the cultural remains represent a single community or a series of smaller sequential occupations. The excavated features and artifacts reflect varied domestic activities such as cooking, and fishhook and basalt tool manufacture, and multiple residential units are suggested.

The radiocarbon determinations indicate that occupa-

tion dates from about the mid-15th century AD. The excavated fishhook forms and faunal remains are also consistent with findings from other late prehistoric sites (e.g., Leach *et al.* 1997; Rolett 1998; Suggs 1961). Use of the Teavau'ua area is broadly contemporaneous with the main settlement at Ha'atuatua to the east (Rolett and Conte 1995). Our preliminary findings, and those of Rolett and Conte (1995), contrast with Suggs' (1961:185) argument that by AD 1400 competition had become so marked that "the beaches were generally shunned and the entire population seemed to gravitate inland" (Suggs 1961:185).

Two aspects of the Teavau'ua findings anticipate pre-15th century use of the Anaho catchment, but suggest related deposits may be buried and will require more intensive testing to locate. First, the Teavau'ua faunal assemblage does not suggest initial use of virgin territories as vulnerable taxa, such as birds and turtles, are lacking (e.g., Anderson 1994; Steadman 1995). Second, the sedimentary record indicates that the mid-15th occupation was accompanied by erosion of the surrounding slopes, presumably in conjunction with vegetation clearance and gardening.

From about the mid-15th century through western contact, use of Anaho appears fairly continuous. In the historic period a major sedimentological event occurred, covering the coastal flat with sterile sands (Layer II). We think it likely that this large-scale event is the 1946 tidal wave that devastated the northern coast of Nuku Hiva; one informant spoke of extensive damage to traditional structures along Anaho's southern shore.

At Teonepoto (AHO-2) the single radiocarbon date indicates later use but the lowest cultural layer remains undated. The cultural strata reflect recurrent short-term activities, as suggested by multiple shallow hearth features. Few artifacts were recovered, consistent with the above, but the assemblage is notable for its variety. The Teonepoto fauna is distinguished by a small amount of bird bone. Possibly the cultural materials seen here reflect use of the coast by people whose permanent habitations and gardens were inland.

The period between 1100 and 1400 AD has been called “unquestionably the phase of greatest transformation in Marquesan society” (Kirch 2001:260). Current models suggest that in the centuries that followed there was increasing social differentiation and competition, an efflorescence of megalithic structures, and the development of large-scale community architecture. Environmental change is thought to have been marked and resource stress significant. Declines in exotic imports at sites like Hanamiai speak to changes in regional patterns of interaction as well (Rolett 1998). Our preliminary study signals the potential contributions of Anaho Bay, with its pearlshell and fine-grained basalt resources, towards understanding this critical period in Marquesan prehistory. Further field studies were carried out in 2001 and analyses are on-going.

Acknowledgements

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