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SHORTER COMMUNICATIONS

POTTERY FROM NAN MADOL, PONAPE, EASTERN CAROLINE ISLANDS

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The purpose of this report is to bring attention to the recent finding of pottery at the site of Nan Madol in Ponape, Eastern Caroline Islands. Heretofore, prehistoric pottery has not been properly documented for Ponape. [1]

Ponape is one of the larger islands of Micronesia, having a land area of 330 square kilometres. It is a "high" island, the volcanic mountains of the interior reaching elevations of more than 830 metres. A barrier reef surrounds Ponape and a sizeable lagoon is present on all sides.

As described by Hambruch, (1936: see site map p. 20) the site of Nan Madol consists of 92 artificially constructed islets. The islets are generally rectangular in shape, forming a compact and roughly rectangular area of structural remains on the lagoon reef adjoining Temwen Island on the east side of Ponape. The islets vary in size from approximately 372 sq. metres to 8,400 sq. metres, with intermediate sizes being most common. The total area of Nan Madol is approximately 60 hectares. (Hambruch estimated 70 hectares.) Most islets were constructed by stacking columns of prismatic basalt for an exterior retaining wall, and then filling the inside with coral rock. House platforms, burial chambers, and other structures were placed on top and in the fill. Travel between the islets is through the intervening canals. These are presently quite shallow, as they must also have been at the time Nan Madol was occupied.

Accounts in the traditional histories of Ponape ascribe considerable importance to Nan Madol as a political and ritual centre for the island (see Bernart 1977). There is no evidence, however, that this impressive site was a city in the sense of an urban population centre. Apparently, it was primarily occupied by high-status individuals along with their retainers and servants. Though reliable empirical data are lacking, Fischer (1964:52) estimates the population of Nan Madol at its height to have been roughly 1000, and that of all Ponape as 20,000 to 35,000.

Much of the presently available information on Nan Madol derives from Hambruch's field investigations in 1910 (Hambruch 1936). Previous reports had established the significance of Nan Madol and provided limited descriptive infor-

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mation. During the later Japanese period some additional archaeological work was also undertaken. [2] In 1963, a project was carried out at Nan Madol by the Smithsonian Institution. Except for a brief mimeographed report (Riesenberg, Evans and Meggers nd.) the results of this research have not been presented.

The investigations described herein comprise part of the initial phase of a multi-phase research project currently being undertaken by the Pacific Studies Institute. The first phase is oriented towards surface collecting and mapping islets recently cleared of mangrove trees.

During the three-week period between July 17 and August 3, 1979, work was initiated on the first phase. [3] The islets of *Konterek* and *Tau* were completely surface collected and the islet of *Tapau* was one-half surface collected. A total of 779 artefacts was recovered, mostly from these three islets; among them are 392 ceramic artefacts. The bulk of the remaining artefacts are various types of shell adzes. There are more limited quantities of other kinds of shell artefacts, and grinding and pounding stones. Provenience information was obtained for all artefacts with the aid of a transit.

Because of the unusual nature of the pottery discovery, a preliminary description seems justified and of general interest. The shell and stone artefacts, along with the few historic pottery sherds and other ceramic artefacts dating from the period of Western contact, will be described at a later time.

Table 1 provides a listing of all ceramic objects and the islets on which they were found. The pottery from *Tsap on, Tau at peiti, Ua sau*, and *Toron*, it should be noted, was recovered during a brief reconnaissance; an intensive and thorough collecting strategy was used on the other islets. Additional reconnaissance and surface collecting will be necessary to determine the extent of pottery use at Nan Madol. Also, the disproportionate quantity of pottery collected from *Tapāu*

TABLE 1

Ceramic Artefacts from Nan Madol

Islet	Total number of pottery sherds	Historic sherds	Total pre-historic rims	Decorated pre-historic rims	Other ceramic artefacts
Tapāu	306	5	5	3	1 [1]
Tau	12	4	0	0	2 [2]
Konterek	14	0	0	0	0
Tsap on	25	0	1	1	0
Tau at peiti	7	0	0	0	0
Ua sau	15	0	0	0	0
Toron	10	0	0	0	0
	389	9	6	4	3

[1] elongated bead

[2] historic pipe stems

(only one-half collected) cannot be attributed to either a difference in islet size or collection strategy. Apparently, greater quantities of pottery were being used on this islet in the past.

A sample of the prehistoric pottery is illustrated in Figure 1. Decoration is limited to parallel rows of indentations along the inner and outer edges of flattened rim lips. Of the five rim sherds having flattened lips, only one did not have the indentations. Apparently no painting or slips were used. Very little can be said about shape except that there were both large and small vessels, and flaring rims were apparently common. Pottery thickness ranges between 2.5mm and 20mm. Most sherds are between 4mm and 8mm thick.

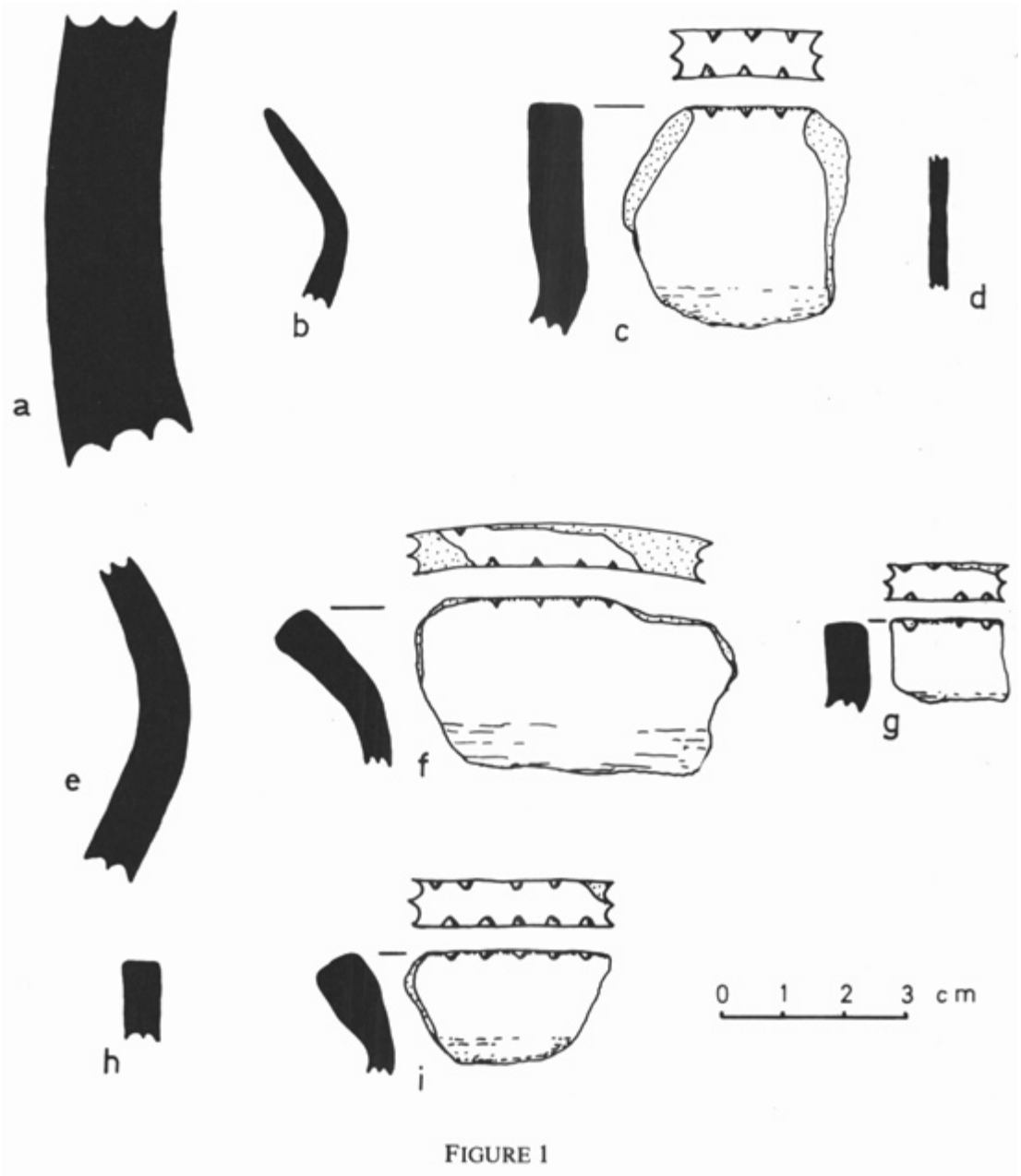

FIGURE 1

FIGURE 1

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Surface treatment of the pottery varies from smoothed to lightly polished. Probably as a result of weathering, most sherds exhibit a crackled surface. Paste colour varies from dark brown to tan and to reddish. A majority of sherds do not have temper. Those that are tempered most commonly have crushed shell, though a few sherds evidently have rock temper. Much of the pottery crumbles easily and appears to have been poorly fired. A few hard, well-fired sherds, however, were present.

In cross-section many of the Nan Madol sherds have thin, light-coloured, laminar deposits running parallel to the surface. It is believed these deposits could be a precipitate either from the wet clay at the time of manufacture, or perhaps from the absorption of water with soluble minerals and salts in the archaeological site. [4]

The dating of this pottery is assumed to be coeval with the occupation of Nan Madol, which was abandoned as a residential site before the historic period (Fischer 1964). Use of the site during the early period of Western contact seems to have been only for occasional ceremonial activities (Fischer 1964:51-2). The pottery, therefore, almost certainly must date to the prehistoric period. There is no traditional knowledge concerning the use of pottery at Nan Madol or anywhere else on Ponape (Masao Hadley and Pensile Lawrence: personal communication).

Accounts from traditional histories suggest the occupation of Nan Madol to have been rather late in the prehistory of Ponape (Fischer 1964:54; Bernart 1977). This is supported by three radiocarbon dates recorded from the islet of *Itet* by the Smithsonian Institution. The dates are A.D. 1180, 1260, and 1430 (Radiocarbon 1965:253-4). It is likely that

the use of pottery at Nan Madol falls within the range of these dates, though of course the relevance of the *Itet* dates remains unverified for the rest of Nan Madol. An attempt will be made in the future to date the islets from which the pottery was recovered.

An important question concerns whether Nan Madol pottery was produced locally or brought to Ponape as a trade item. Though a definite answer will have to await future studies, it may be noted that Nan Madol pottery bears no striking or obvious relationship to other Micronesian pottery styles (see Gifford and Gifford 1959; Osborne 1966; Spoehr 1957; Takayama and Shutler 1978).

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[1] Yawata (1932) had collected several pottery sherds and, more recently, Rev. Erwin Ray of Ponape showed the author a single sherd he had found at Nan Madol.

[2] References for early archaeological investigations of Nan Madol are given in Davidson 1967.

[3] The author wishes to express his appreciation to the Historic Preservation Office of the Trust Territory of the Pacific Islands in Saipan and the Ponape Historic Preservation Committee for making this research possible. From the latter organisation the generous help and skills of Masao Hadley, Pensile Lawrence, and Miguel Marquez deserve special mention. In addition, the assistance provided by Earthwatch volunteers in the field is gratefully acknowledged.

[4] An apparently similar phenomenon is found on pottery from both Truk and Palau. Takayama and Shutler (1978:3) describe sherds from Fefan Island, Truk, as having ". . . many white stripes like webs. . ." and believe "this may be related to the method of pottery manufacture." Osborne (1966:66) notes that some of the Palau sherds have ". . .a layering or filling of the interstices with a limy material. This was observed in sherds that have been exposed to calcareous situations, primarily in the southern limestone islands."