

A PANDANUS FRUIT SCRAPER FROM MAKIN ISLAND, KIRIBATI, CENTRAL PACIFIC

*Jun Takayama*  
*Tezukayama University*  
*Nara, Japan*

The 1983 excavation of the Utiroa site on Makin Island, the northernmost of the Republic of Kiribati (formerly the Gilbert Islands), yielded a cup-shaped artifact made of the outer body whorl of a *Cassis rufa* shell (Figure 1). The grating edge is flattened, 3.7 mm wide, and remains slightly serrated. Roughly flaked concavities at opposite points on the two sides of the shell near the top may constitute a lashing device. The tool is 12 cm by 11.5 cm in size, and 5.8 cm deep, weighing 180 grammes. It may have been a pandanus fruit scraper of the kind reported in the ethnographic literature of the Marshalls (e.g. Finsch 1839: Figure 18; Krämer and Nevermann 1938: Figure 19; Tischner 1958:45), but virtually unknown in Kiribati, ethnographically and archaeologically. In the Marshall Islands such scrapers are used to make pandanus paste; the soft ends of the keys are rubbed against them (Miller, Murai and Pen 1956:6).

This specimen was uncovered in Layer IV of Test Pit 5 at the Utiroa site. No radiocarbon date has been obtained from this test pit, but the specimen is probably assignable to a date around A.D. 1000. In southern Kiribati pandanus is today a staple crop, but it is grown much less on Makin in northern Kiribati than in the south (Lambert 1963: 17). Since the Makin scraper does not seem to me to be an import from the Marshalls, this discovery indicates the possibility that in prehistoric times the pandanus was of more importance on Makin. Although it is uncertain at present whether this kind of scraper was once used throughout Kiribati, I think the possibility is very strong.

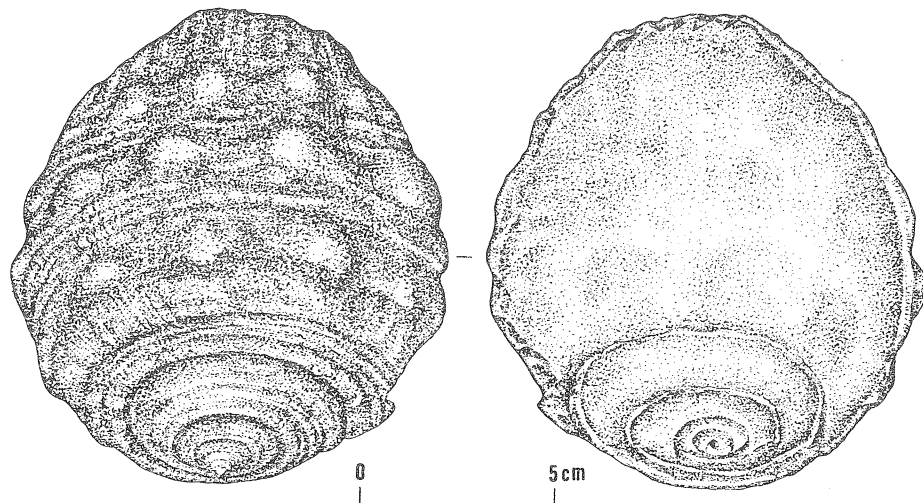


Figure 1. Pandanus fruit scraper found at Utiroa site, Makin Island, Kiribati, Central Pacific.

Recently, the same scraper type has been recovered archaeologically in the Marshalls by Rosendahl (1987:142). However, until every island group has been examined, we cannot determine the direction of diffusion of the form in the Marshalls and Kiribati, although the possibility of a Kiribati origin seems to be stronger than that of a Marshallese.

In some Pacific islands such as Kapingamarangi, the Marshalls, Kiribati, Tuvalu (Miller, Murai and Pen 1956:14), and other atolls in Micronesia (Stone 1966:431), the pandanus fruit is an important seasonal food. Accordingly, there is some possibility that the absence of scrapers of this kind in the Temei site on Vaitupu in Tuvalu may be due to inadequate sampling.

Pandanus fruit undoubtedly played an important role in the settlement of the low coral islands and atolls, at least in the Central Pacific, not only as an important seasonal food but also as an emergency ration for long sea voyages (Miller, Murai and Pen 1956:14-5; Grimble 1933-4:39; for the implications for fuel in voyaging canoes see Schattenburg 1978:37). It is thus tempting to assume that pandanus scrapers are possibly assignable to the early assemblages of Kiribati, and possibly the Marshalls and Tuvalu, although archaeological evidence has yet to verify this suggestion. If so, their absences in the archaeological records of Nukuoro and Kapingamarangi may be also due to sampling error. In this connection, the discovery of a hemispherical piece of an outer body whorl of Cassis shell, identified as a container by Davidson (1971:75), is of great interest.

The absence of breadfruit scrapers of cowrie shell (Cypraea sp.) in the archaeological collections on Makin and Vaitupu may be due to a late introduction of this form into the Eastern Caroline Islands from Melanesia. Previously, other shells such as Asaphis violascens (Forscal) may have been used for this purpose. Such scrapers have been found in Tuvalu (Takayama 1988:18), Kiribati (Takayama and Takasugi 1988), the Marshalls (Rosendahl 1987: Figure 1.70e), and Nukuoro (Davidson 1971:75).

Comparing the prehistoric cultures of the Marshall with those of the Kiribati, we notice that the former share more artifacts with Micronesia to the west than do the latter. For instance, an undated slingstone made possibly of volcanic rock has been found in the Marshalls (Marshall Museum collections), but the form is missing to date in Kiribati. It must be noted, however, that this absence may be largely attributable to the lack of subsurface archaeological research. Thus, the absence of flat Tridacna shell discs in Kiribati, a type found in the Marshalls (Rosendahl 1987: Figure 1.77d-h) and in the early assemblages of Yap and Belau, also seems to result from sampling error.

Despite the possible importance of sampling error, however, we are still confronted with something of a puzzle in the Marshalls and

Kiribati concerning the absences of Terebra and Mitra shell chisels with cutting edges at the apertures, and coral pounders with a small lug on their flat poll surfaces. Both artifacts were widespread in the Eastern Carolines, at least in the late prehistoric period, so here the absence may be explained through reduced contact between the Marshalls and Kiribati and the Eastern Carolines. Another alternative is that early sites have not yet been found in the Marshalls and Kiribati and that, when they are found, they may help to close the gap. In my view, the recovery of Terebra and Mitra shell chisels on Nukuoro (Davidson 1971:52-5) suggests two possibilities for their origins: Carolines or Tuvalu/Kiribati. The archaeological evidence available at present indicates a greater possibility for a Carolinian derivation. Yet, as almost all other forms of Nukuoro material culture can be traced to Tuvalu and Kiribati, we cannot deny the probability that the Terebra and Mitra groups also derived from these islands. Davidson's (1971:54) report that the Auckland Museum collections contain examples from Kiribati supports this view. As mentioned above, in short, it may be said that in the Marshalls there is a continuity of Carolinian material culture, but some forms drop out in Kiribati. Instead, the latter have a more "East Polynesian" artifact kit than the Marshalls.

It must also be noted that the Tridacna and Cassis shell gouges found relatively commonly in the shell adze assemblages of the Marshalls and Kiribati imply that such gouges could have been substituted for Terebra and Mitra shell chisels to a considerable extent.

The coral pestles found in the Marshalls by Rosendahl (1987:Figure 1.71d) parallel those of Fefan Island in Truk (Takayama and Shutler 1978: Pl. 11-12). A rectangular-sectioned coral pestle found in the Utiroa site may also belong to the same tradition, although it was found in the later level on Makin. There is a strong possibility that this tradition may have a historical relationship with the stone pestles of the Marianas, although functions may differ somewhat. It may be that by early ethnographic times wooden pestles had been substituted for coral ones, especially in the Marshalls, Kiribati, Tuvalu, Nukuoro, and Kapingamariangi (Buck 1950: Figure 7a). Since the aforementioned coral pestle from the Utiroa site seems to be functionally the same as the modern wooden pestles for mashing taro (e.g. Hedley 1897:298), it becomes apparent that the Makin people cultivated taro at least from late prehistoric times.

On the other hand, the ethnographically well-known Marshallese Tridacna pounders for beating pandanus leaves (e.g. Rosendahl 1987:Figure 1.71a) probably developed there independently from a wooden prototype in response to availability of large Tridacna shells. Wooden pounders are used ethnographically in Kiribati (Koch 1965: Figure 70), Tuvalu (Koch 1961: Figure 80), and other Micronesian islands such as Belau.

Kirch (1984:56) points out that indirect evidence for crop plant cultivation comes from a variety of scrapers and peelers. Now, pandanus fruit scrapers can be added to this repertoire. Discoveries of this kind of artifact will increase, in particular in archaeological research on the coral islands of the Central Pacific.

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