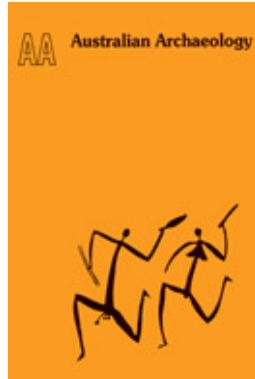


Australian Archaeology



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Full Citation Details:

Hughes, P.J. Sullivan, M.E. & Branagan, D.F. 1978. Are there prehistoric shell middens on Rottwest Island? 'Australian Archaeology', no.8, 158-161.

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ARE THERE PREHISTORIC SHELL MIDDENS ON ROTTNESST ISLAND?

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In August 1973, during a one-day bike and bus tour of Rottneest Island, we observed a number of different types of shell bed. The most massive of these were seen around the lakes at the eastern end of the island and there is no doubt that these are natural marine shell beds. However elsewhere shelly deposits were seen whose origin we could not determine with certainty. A number of midden-like lenses of shell were exposed in road sections, particularly along the north side of the island. Several thin scatters of shell, some associated with bird bone, were seen at the western end of the island. Most of these were exposed in blowouts, either *in situ* or deflated, but in one instance shell and bird bone were found inside a small shelter formed in aeolian calcarenite. All of these deposits displayed some of the characteristics of Aboriginal shell middens; nevertheless we would perhaps have dismissed this origin but for the discovery of a particularly extensive deposit on a small promontory just west of Parker Point (Fig.1).

This promontory consists of a bench, about 200 m² and 1-3 m above the water, cut into aeolian calcarenite. The shell deposit covers the back half of this bench. On the basis of criteria

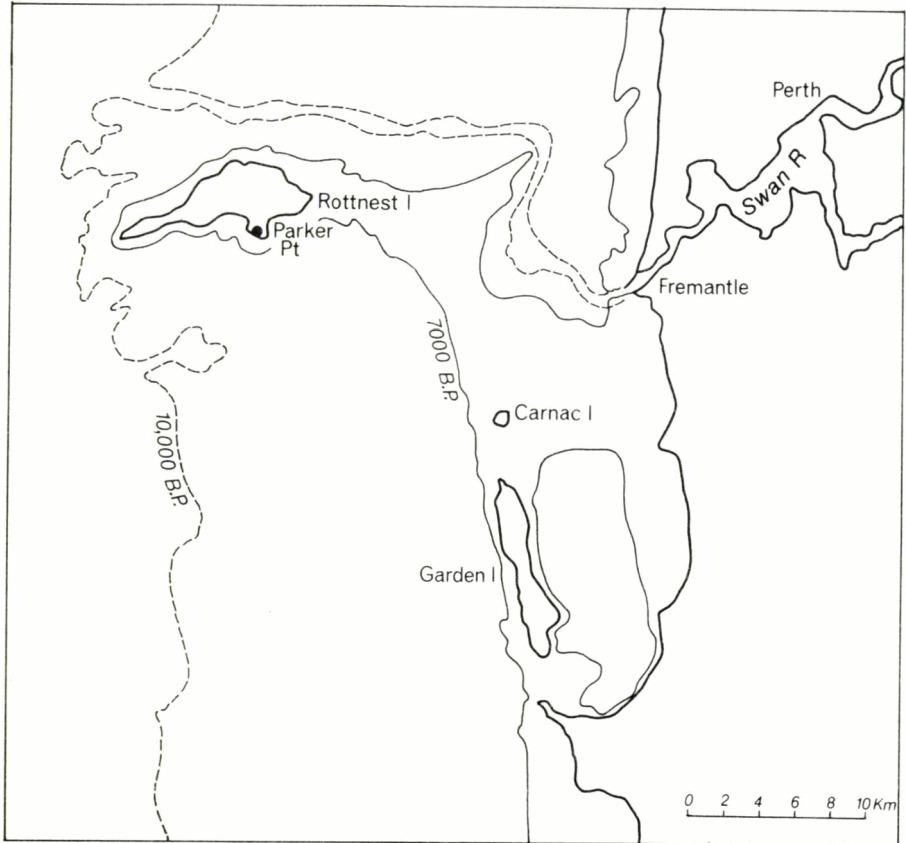


FIGURE 1

discussed in Coutts (1966), Gill (1951) and Hughes and Sullivan (1974) we conclude that this deposit is definitely not a natural marine shell bed, rather it has most of the characteristics of a shell midden which has been eroded and reworked by wave action around its seaward margin. The deposit is characterised by large whole and broken mature gastropods, predominantly of the Turbinidae family, and the presence of numerous large opercula indicates that the shellfish were brought to the site whole. The upper 5 cm of the deposit consists entirely of weathered bleached shell. Below this level is well preserved shell in a dark sandy matrix resembling that of middens elsewhere in Australia, where the dark colour is due to finely divided charcoal and humus derived from the decay of plant and animal refuse. No foreign stone or bone was observed; however the apparent absence of stone is not surprising, since the bedrock of both the island and the neighbouring mainland shoreline is dominantly aeolian calcarenite. The maximum thickness of the deposit appears to exceed 50 cm. The slopes above this site are littered with bleached large operculae and occasional large whole and broken gastropods.

Subsequently an investigating team from the University of WA and the WA Museum visited the island, apparently without finding evidence for Aboriginal shell middens. While shell deposits exposed in road cuttings may well be the result of earlier road construction, and thin shell scatters such as those at the western end of the island might well have been brought up and deposited by birds or European picnickers, deposits such as that described from near Parker Point remain unexplained and it is relevant to speculate on the possibility that they are Aboriginal in origin.

A plausible explanation of such deposits is that they accumulated as a result of shell gathering by Aboriginal convicts confined to the island late last century. However the bleached and weathered appearance of the upper part of the Parker Point deposit suggests that it is more likely to be prehistoric.

In this case one possibility is that such deposits date from a time when the sea was approaching its present level, yet the island was still connected to the mainland. At about 7-8000 BP, when such a connection still existed, the remainder of the island's coastline would have been about 0.5 to 2 km from its present position (Fig.1). Hence it is possible, but somewhat unlikely, that middens could have accumulated on the present island at this time.

Since the present configuration of the coastline was established, a journey to the island would have involved a water crossing from the mainland of at least 19 km or, by island hopping via Garden and Carnec Islands, of 16 km. It is highly improbable that deliberate voyages over such long distances were undertaken (Jones 1977:330), although the possibility of a group of castaways surviving for some time on the island cannot be discounted (Jones 1977:355).

Another possibility is that the configuration of the islands and shoals along the calcarenite dune ridge that connected Rottneest Island to the mainland via Carnec and Garden Islands has changed over the 6000 years the sea has stood more or less at its present

level, and that a chain of small, low islands persisted along this ridge for some time after the recovery of sea level, allowing comparatively easy access to Rottneest.

If these deposits prove to be prehistoric shell middens, questions of cultural change arise, as the ethnographic evidence suggests that the Aborigines of southwestern Australia did not use canoes (Hallam 1975:22), nor apparently did they eat shellfish (Hallam 1972:11-12; however, see also Dortch 1977:125-6). Only excavation of the Parker Point deposit or other similar deposits that might be found in a systematic survey of the islands can resolve the question of the origin of these shell deposits.

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