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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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THE 1978 RAOUL ISLAND ARCHAEOLOGICAL EXPLORATION: AN INTERIM REPORT

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The scientific attractions of the Kermadec Islands have been examined on a number of occasions (a good list of references on the natural and cultural history of Raoul Island is that of Haigh, 1968), but until last year it remained one of the few Polynesian archipelagoes unexplored by archaeologists. There had been chance finds of adzes over the years (Duff, 1968), and a recent botanical study (Sykes, 1977) had revealed probable pre-European introduction of ti (Cordyline terminalis), taro (Colocasia esculenta), candlenut (Aleurites moluccana), a wide range of cultivation weeds and possibly also the kumara (Ipomoea batatas). It seemed most unlikely, then, that these islands had been overlooked during the Polynesian expansion phase of a millennium or so ago and their strategic position along a direct route between either Tonga or the Cook Islands and New Zealand, provided a compelling reason for a visit by New Zealand archaeologists.

It is not easy to get to Raoul Island for although the Ministry of Transport (Meteorological Station) and the Lands and Survey Department maintain permanent bases the crews are seldom replaced at less than annual intervals and space on the supply ships is at a decided premium; in other words to get there (and get off again without cutting several hundred notches in a wooden calendar) you need a bit of luck. Ours came in the shape of the H.M.N.Z.S. Monowai, which was scheduled for a month long survey in Tongan waters, was calling at Raoul to land a new crew and to pick up the existing one ten days later, and could provide six berths for archaeologists. I had arranged a potential team for this eventuality several years before but some of them were unavailable and the group which finally mustered on the Monowai's helicopter deck on a fine September morning last year comprised Nigel Prickett and Reg Nichol from Auckland, Graeme Mason, Rod Wallace, Roy Johnstone and myself from Otago (see Plate 1). Roy is a geologist interested in volcanic islands who had worked with me on 'Ata in 1977 (Anderson, 1978), Graeme is a man of wide interests and talents in the natural sciences as well as archaeology and the rest of us are just plain archaeologists.

After a 44 hour voyage in boisterous conditions we reached Raoul Island, having passed L'Esperance Rock, and Curtis and Macauley Islands; all cliffed, bleak and treeless. Raoul is altogether different; it is large (2943 ha), high (516m), impressively rugged and covered in dense pohutukawa and nikau forest (Figure 1). It is usual to land at Fishing

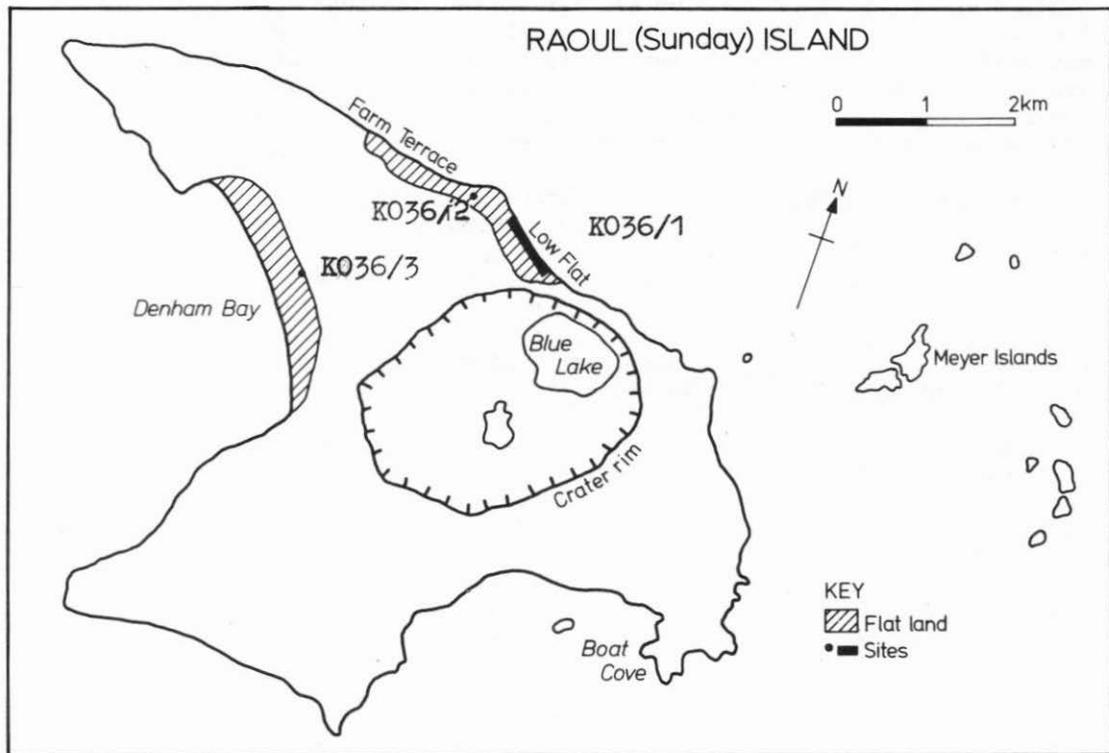


Figure 1. Raoul Island, showing location of prehistoric sites.

Rock on the north side but a 50 knot noreaster made this unworkable and the Navy, with a whaleboat, a zodiac, and a great deal of skill, therefore put us and the relief crew for the Meteorological base on the beach at Denham Bay. We spent several days there in damp conditions, digging pits to 2m through the pumice and clay in an attempt to locate prehistoric cultural horizons. Our efforts with the spade were in vain. On the other hand Graeme found a collection of basalt blades on a talus slope behind the beach (K036/3, see Figure 1), and Nigel and Reg recorded and sampled the extensive evidence of historic settlement in Denham Bay which is being revealed by the Lands and Survey campaign against the all-enveloping Mysore thorn (Caesalpinia decapetala) (introduced by the early settlers to provide a goat proof

hedge). Remains of house foundations, chimneys, a stone oven, and abundant glass, crockery and iron are evidence of the long history of European interest in this bay from the early whaling days (when it was used as a 'Post Office') right up to the 1930's. It was a pleasure to find that the Lands and Survey officers were doing all they could to keep this evidence intact during their operations and that they were intent on protecting it from fossicking.

By our fourth day ashore we had established a camp on the Terraces, the farmland cleared by Thomas Bell (Morton, 1957) on the north side of the island. The track from Denham Bay rises steeply to the crater rim at 350m but then follows a pleasant walk through the rain forest and down past orange groves to the buffalo grass of the Terraces. This high matted grass cover is difficult to walk through and with the weather hot and very humid we were soon suffering from the dreaded Raoul Island torpor to which Venables (1937) attributes the failure of all European settlement attempts. Examination of the exposed sections along the Terraces and a series of test pits again failed to reveal any evidence of a prehistoric site. Only in one place (K036/2, see Figure 1) where an adze butt had evidently been nosed up by the Station boar (Boris) was there anything indicative of a site. Three large shallow hollows close together and several basalt flakes nearby gave sufficient cause to excavate one of the depressions, but the exposed stratigraphy showed no signs of cultural interference. Pressing on we gradually worked eastwards to Low Flat.

Low Flat is a 750m long sand beach backed by 5m high breccia and ash cliffs with gently sloping land some 300m back to the base of the external wall of the crater. In the centre the land is covered with pohutukawa forest and at either end is open and has dunes up to 10m developed over it, especially towards the east (Plate 2). Checking along these low cliffs and in the walls of the ravines which run up to 120m inland from the shore we soon came upon extensive evidence of human occupation. A single cultural soil with numerous fragments of Raoul obsidian, patches of charcoal and some typical Polynesian earth ovens were located almost continuously along some 600m of the coastline (K036/1, Figure 2). We immediately shifted camp to Low Flat and began a programme of recording and test excavations. The cultural layer was normally 1.5-2.0m below the surface and overlain by alluvially deposited ash, silt, lapilli, basalt and pumice in dense compact layers within which was located at least one other fossil soil layer. A typical profile, from excavation (LF3, see Figure 2) is shown in Figure 3. Neither the present soil nor the upper fossil soil contained any evidence of prehistoric human occupation but at the eastern end of Low Flat charcoal, sea mammal bone

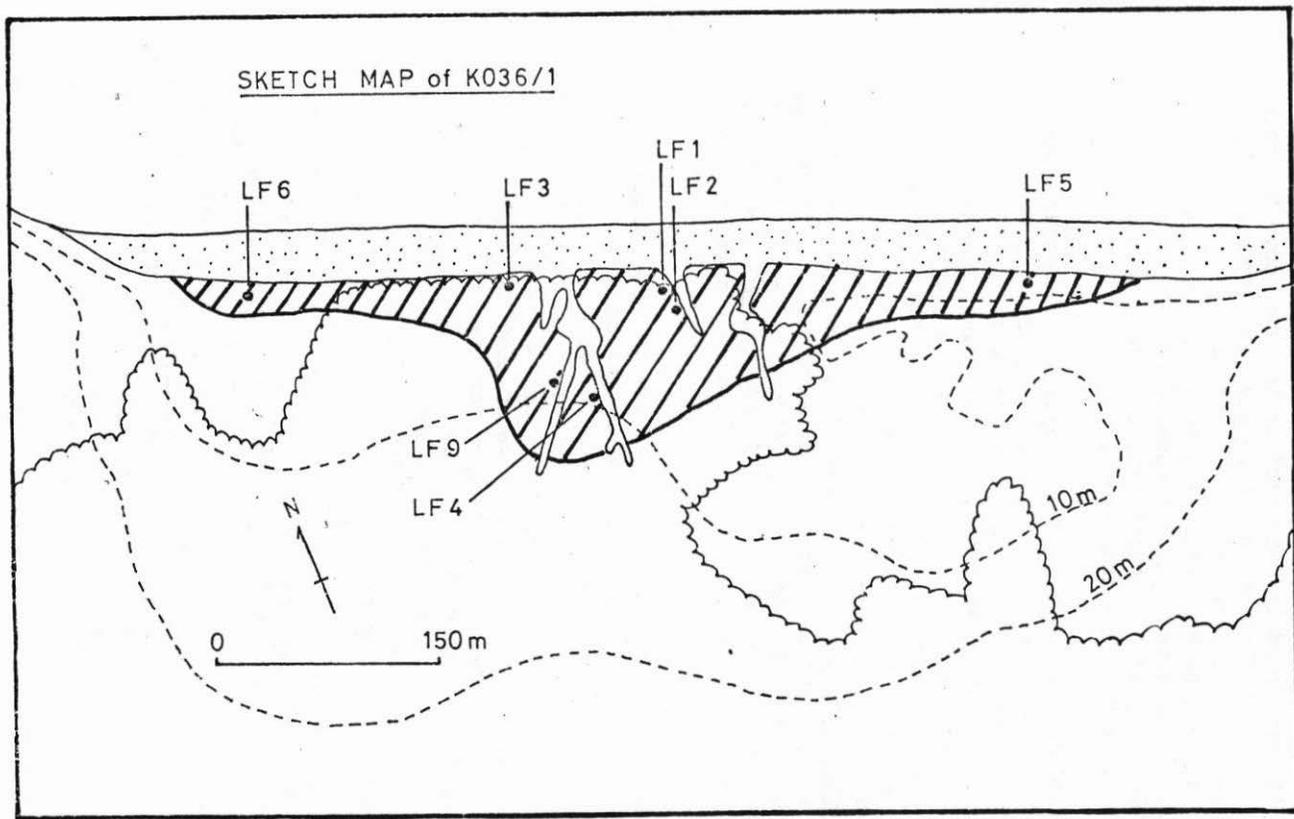


Figure 2. Sketch map of the site at Low Flat giving location of test excavations.

and limpet shells were found in dune sand up to 60cm above the main cultural layer, although that may not mean any great span of time. Charcoal samples from test excavations 1, 2, 3, 4, 5, 6 and 9 have been submitted for radiocarbon dating and these all originate from the main cultural layer which, it is presumed, represents a single continuous settlement phase. Insufficient charcoal was obtained from the higher horizon in the dune sand.

By the second day at Low Flat we had established several important facts about prehistoric settlement on Raoul. Our small test excavations showed that local obsidian had been widely used to produce both flakes and small core tools, including what appear to be end scrapers. Likewise local basalt was being used (contra Duff, 1968) to produce adzes; preform flakes were commonly found although not abundantly except in LF4. Thirdly, there were small quantities of midden in a very fragile condition but including the giant limpet (Scutellastra kermadecensis), small birds, fish, dog, and sea mammal. No evidence of the pig was uncovered. Some structural evidence such as scoop hearths, postholes, and several Polynesian earth ovens had also been excavated. It all added up to a very typical prehistoric Polynesian settlement, but where were the clues to its age and immediate origins?

Not far away as it turned out, because the next day Graeme plucked the whole adze in Plate 3 from an eroding section of the cultural layer and the following day Reg found the adze section also shown in Plate 3, and Rod produced the imitation whale tooth pendant (Plate 4) by excavation (LF4). These three artefacts are, by consensus of those who have seen them, indicative of east Polynesian origins during a fairly early phase. Pressed for a more precise answer some archaeologists will force themselves to say "Cook Islands, 500-1200 A.D.", a view shared with Buck (1949) and Duff (1968) but more firmly based answers must await the study of comparable material and the results of radiocarbon estimates.

Buoyed by the elation of these discoveries we set out to extend our coverage of the Low Flat area by excavating small areas at either end of the beach (LF5 and 6) and our coverage of the north coast by continuing to search for sites as far east as Boat Cove and, accompanied by Lands and Survey officers, on Meyer Island. No further sites were found and a delay in the return of the Monowai allowed us first, to explore the hot springs, lakes and fumeroles of the crater area under Roy's enthusiastic guidance and then to open a large square in the main site area (LF9). This was cleared down to the cultural layer at about 1.8m by continuous shovelling in 10 minute shifts throughout

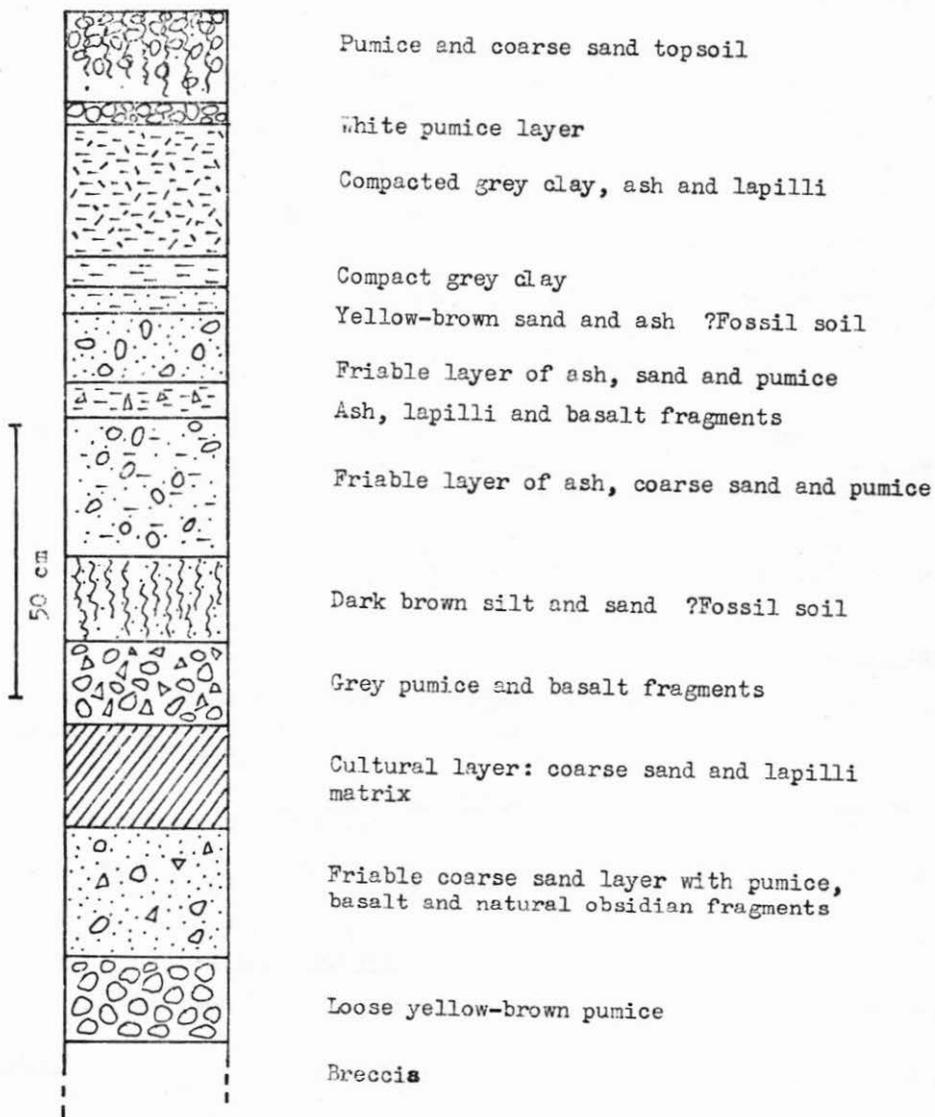


Figure 3. Stratigraphy at LF3, Low Flat.

a very wet and windy day. The excavation of the cultural level revealed several ovens and postholes and provided further samples of stone debris and midden.

After 12 days on Raoul the Monowai returned and three days later, put us ashore at the Ferry Wharf in Auckland. Our expedition was brief and exploratory but it opens the way to a more comprehensive examination of Kermadec's prehistory. When the present material is written up preparation for a major fieldwork programme will begin. Immediate objectives must be extended areal excavations at Low Flat, both in the main site area and at the eastern end where later occupation seems probable, another look at Denham Bay which still seems a likely place for prehistoric settlement, and further examination of places where artefacts (the Terraces) or cultigens (Coral Bay, Lava Point, etc.) suggest pre-European settlement. Meanwhile work is proceeding on lithic determination, midden and artefactual analysis and comparative studies.

The members of the 1978 expedition wish to thank Laurie Kenworthy, Gerry Rowan, and Paul Dale (Lands and Survey), Lt. Comm. Cameron (Devonport) and the officers and crew of the H.M.N.Z.S. Monowai, Henry Dorrian (N.Z. Forest Service), and the staff of the Meteorological Base on Raoul, for their friendly cooperation and assistance, and the University of Otago for the provision of equipment and funds.

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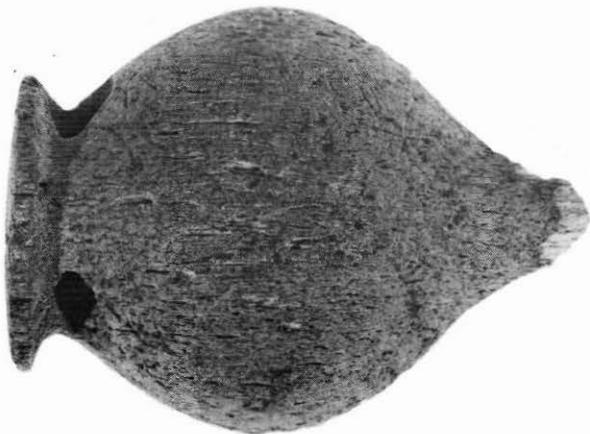
RAOUL ISLAND Plate 1. The 1978 team at Denham Bay. From left: Atholl Anderson, Rod Wallace, Roy Johnstone, Reg Nichol, Nigel Prickett and Graeme Mason.



RAOUL ISLAND Plate 2. Low Flat, looking across to Meyer Island. The Low Flat site is under pohutukawa forest at middle right.



RAOUL ISLAND Plate 3. Basalt adzes from the Low Flat site.



RAOUL ISLAND Plate 4. Imitation whale tooth pendant from the Low Flat site.