



NEW ZEALAND JOURNAL OF ARCHAEOLOGY



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Field Archaeology and Settlement Distribution in the Waiapu River Valley, East Coast

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ABSTRACT

Pre-European settlement with a strong horticultural base occupied the coastal hill country east of the main Waiapu River valley. On the terrace lands of the river, horticulture was probably concentrated on fertile terraces of intermediate level. Pā in hill country were of typical East Coast forms, in which the plan of the pā is largely dictated by the topography of the hill. Artificial defensive features are sometimes lacking or confined to a single transverse uphill ditch and bank. These pā include the inland refuge pā, Taitai, occupied during the Ngā Puhi incursions of the early to mid-1820s. Pā were occasionally very large, especially on alluvial terraces in the early nineteenth century. By the 1840s these pā on alluvium seem to have been the major centres of the settlement pattern, and a few were adapted as Pai Mārire fortifications.

Keywords: ARCHAEOLOGY, NGĀTI POROU, PĀ, REFUGE PĀ, STORAGE PITS, PRE-EUROPEAN, TAITAI, TIKITIKI, RANGITUKIA, WAIŌMATATINI, NINETEENTH CENTURY.

INTRODUCTION

The northern East Coast from Tokomaru Bay northwards to Hicks Bay has had limited archaeological survey. The earliest records for the Waiapu River valley, a major centre of settlement of Ngāti Porou, are a few photographs taken by James McDonald during the 1923 East Coast Ethnological Expedition (see Te Rangi Hiroa 1926; Best 1975: 300–302). This paper summarises the original archaeological surveys of the Waiapu valley (Leahy and Walsh 1979, 1980), with supplementary analysis from aerial photograph reconnaissance and archival aerial photographs. A simple analysis of the settlement pattern relating to pā, horticulture, and the nineteenth century is made.

SETTING

One of the major rivers of the East Cape region, the Waiapu rises in the northern Raukumara Range, and follows a north-easterly direction for some 60 km to the coast. Major tributaries are the Matā, the Tapuaeroa, the Mangaōporo and the Poroporo. The Maraehara rises in the north and joins the Waiapu River on the coast at the small northern estuary (Fig. 1). Also

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entering the valley on the northern coast is the small, deeply-incised, meandering Waikaka Stream (not shown on Fig. 1), which runs by the Ōhinewaiapu marae.

The *high terrace* landforms are composed of Pleistocene sediments and their surfaces are up to 40 m above the present-day river level. Their greatest area is at Rotokautuku, with smaller fragments scattered up and down the northern margins of the valley. Their general appearance is similar to those of the upper Waipāoa (Jones 1988) except that there is little ash in the soils. Soils are the Matakaoa Loams, which have poor natural fertility (Rijkse 1980: 87). The valley floor broadens at Rotokautuku, below the confluence of the Matā and Tapuaeroa, 23 km from the coast along the river. From this point to the sea the valley floor averages 2–3 km in width, with tracts of the most fertile soils on *intermediate terraces*. Soils are the Hoata, Hikuwai and Matahiia Loams, which have high or moderate fertility (Rijkse 1980: 58–63, 73). (These are the equivalent of the Waihirere Silt Loams, which developed on sediments deposited earlier than 600 years BP and which were so important in settlement along the Waipāoa River and at Tolaga Bay — see Jones 1988.) The Matahiia terraces tend to have survived on the north-western margins of the river. On the south-eastern margins the same landform has been largely cut away by the river (Rijkse 1980: map). A hilly point forms the southern headland on the coast and has surprisingly few recorded sites.

Most of the hill country is of a varying sandstone, mudstone or fractured argillite base. On steeper country, generally of sandstone, the soils are skeletal (i.e., continually leached and surface-eroded) and of low fertility (Gibbs 1959: 12). As a consequence, these areas have restricted settlement, as in similar country on sandstone in the Waipāoa River valley (Jones 1988). The slump-prone mudstone country of milder relief retains volcanic ash on its surfaces, and has offered many pockets and wider areas of soils of a northern aspect suitable for horticulture. These areas are extensive to the east of the river and north of Tūpāroa.

The broad coastal headlands from Port Awanui south for some 20 km have extensive wave platforms or reefs. The various methods of netting fish here were studied by Te Rangi Hiroa (1926). He describes named reefs, channels and modified channels that should still be in existence, but no records have been made of them.

SITE DISTRIBUTION

The analysis of settlement and horticulture in the following sections is based on a plot of site types. In the computer index to the New Zealand Archaeological Association central file, sites are allocated somewhat complicated subject or site type codes, e.g., “pa with pits and middens” (New Zealand Archaeological Association 1999: 123–26). This requires decisions to be made about how data should be grouped and presented. A print out of “all pā” combined with “all pits” would over-print a certain proportion of pit symbols over pā symbols and produce a potentially confusing image. The alternative of a separate map for each site type or different symbols for combination site types was not feasible.

Key archaeological site types were allocated symbols and their distribution plotted (Fig. 1). The symbols represent a hierarchy of types of settlement. For the site distribution analysis, the pā are first, followed by pits and middens in that order. This allows an analysis of pā distribution and distribution of storage pits (assuming that all pā have some pits). The symbols were derived as follows:

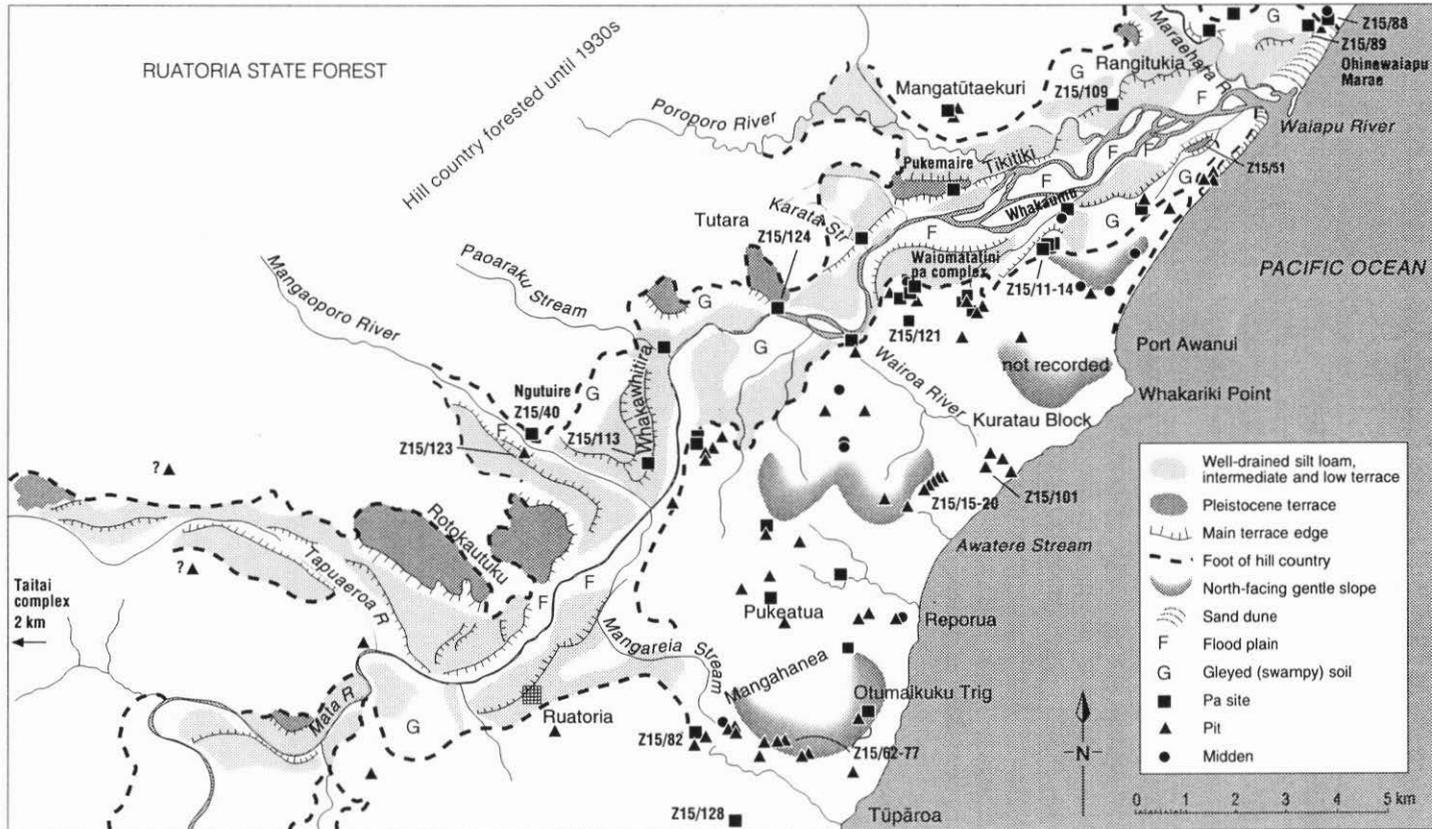


Figure 1: The Waiapu River valley, showing pā, pits and terraces, and some relief features.

- Pā: codes AD, CB, CC, CD, DC, EI,
- Pits but not pā with pits: codes AM, AO, BI, CF, CY, CH, CO, CP, CS, EJ,
- All middens but not pā or pits with middens: AA, AV, CE, CI, GM.

STORAGE PITS AND HORTICULTURE

The distribution of site types allows some generalisations on preferred locations for horticulture. For an analysis of pre-European horticulture, the balance between soil type, local topographic setting, and inland and coastal climate has to be judged using the requirements of the crops available in pre-European times. The most important crop was kūmara, which requires light sandy soils and a very warm growing season. It can withstand dry periods and had to be stored in pits over the winter. In addition to the overall site distribution (Fig. 1), a 1:25,000 plot of all pit sites in the valley was overlaid on the soil map in Rijkse (1980). The objective was to show patterns in pit site distribution and their relationship to the soils. This map is not included in the figures.

There is very little evidence of horticulture in the inland valleys such as the Matā or Tapuaeroa. Even in the lower valley, the pit site distribution shows very few recorded pits on the alluvium itself. However, there are a number of sites with pits in the hill country immediately adjacent to the terraces. This probably indicates horticultural use of both the terraces and the lower hill country. Nineteenth century records such as Rev. Richard Taylor's indicate intensive use of alluvium for maize, potatoes and other crops (Mead 1966: 13–14). Most of the recorded pit sites are in the hill country between the river and the sea. The country to the north of the river was largely forested until the 1930s and no pits are recorded there.

On the wedge of hill country from Tūpāroa north along the coast and west to the river, pit density is high. The settlement pattern also includes a high proportion of all the pā in the locality. Leahy and Walsh record pā, but no pits, on prominent hillcrests and on the upper edge of the scarps of high terrace landforms in the upper part of the Tapuaeroa River valley, and terraces (nearer the valley floor), e.g., at Pakihiroa Station west of the area shown in Figure 1. Nevin, surveying for the former New Zealand Forest Service, also recorded pits near the Matahiia Trig above the Matā River and a little to the west of the area of Figure 1. At 410 m above sea level, these are some of the highest recorded pits in the eastern region. Taitai (Site Y15/3–14; N71/3–14²), a prominent hilltop and landscape reference point 10 km due west from the confluence of the Matā and Tapuaeroa, was first recorded by Leahy and Walsh. There, Nevin subsequently recorded many terraces but no unambiguous pits at altitudes as high as 600 m above sea level. Further to the east in the hill country in the Mangaōporo River valley there are no known archaeological sites. In the 1930s the valley had only just been cleared of a tall standing forest (probably podocarp/tawa), marked by many felled and burned stumps (aerial photographs S.N. 127/L30–43; 3.6.39).

Gardening on or near the high and intermediate terraces in the mid- and lower-valley is reasonably well attested by the presence of pits and pits within pā at several localities from

² New Zealand Archaeological Association site record numbers. Y15/3–14 is the current metric site number; N71/3–14 is the earlier number relating to the NZMS 1 map series.

the fan of the Mangaōporo River to Tikitiki. Pits are prominent features of the major sites on the high terrace. (The high terraces need not have been the focus of gardening but crops could be easily brought up from the intermediate terraces.) They survive on the unploughed areas of Pukemaire (Z15/39; N72/42) above St Mary's Church, Tikitiki, at a pā at Whakawhitira (Z15/113) and on a pā at Karata Stream (Z15/124). A single pit (Z15/123) (aerial photograph S.N. 127/M49-50, 3.6.39) occurs on a terrace within the area of the Mangaōporo fan. On a ridge to the north-east of the mouth of the Mangaōporo River where it enters the Waiapu, a well preserved pā, Ngutuire (Z15/40; N72/43), has a large assemblage of pits. On the south side of the river there are occasional small scatters of pits on the high terrace. Fragments of the high terrace abutting the hill country were used as a preferred area for storage in the Waiōmatatini pā complex (further discussed below). Here, as elsewhere, the alluvial Hoata, Hikuwai and Matahiia silt loams and pockets of the hill country soils were probably the focus of the gardening.

Other horticultural sites were on ridges in the hill country between the coast and the Waiapu River. In this eastern hill country, from the mouth of the Waiapu south to Tūpāroa (the main focus of Leahy and Walsh's survey), there are a number of large (2 km²), sheltered, north-facing basins with many pits around their coast-facing, southern and eastern rims (Fig. 1). There are groups of pits on ridges adjacent to north-facing slopes north of Awatere Stream (Z15/15-20; N72/15-20) and north of Tūpāroa, e.g., in the vicinity of Otumaikuku Trig (sites Z15/62-77; N72/65-80). At the point where the Mangawhero Stream enters the Waiapu or Pohautea Block within 1 km of the sea, Leahy and Walsh recorded long series of parallel lines (depressions?) crossing one another (Z15/51; N72/54). Described by Leahy and Walsh (1979) as a "farm system", the site lies on an island of high terrace created by a stream running into the main river. Some aerial photographs (R.N. 2266/23,24,25, 29.4.57) show a complex of indistinctly patterned drains on this fragment of high terrace. They may be horticultural trenches or ploughed-out ditches and banks but their exact function is unclear. There are also pits (Z15/22,102; N72/25,24) and a swamp area associated with this site. A ditch-and-bank fence complex (Z15/101; N72/23) on the Kuratau Block is also of note.

PĀ

Pā are numerous on sites with a good outlook down the river, particularly (but not exclusively) on the south side and at a low height (8-30 m) above the riverbed. Some of the pā are on the edges of the high terrace, others on the ridge ends of the hill country above the high terrace. A dispersed grouping of large pā occurs about 5 km upriver from the coast. These pā are Mangatūtaekuri (Z15/110, Z15/93; N72/96), on the trig of the same name about 2 km north of Tikitiki; Pukemaire (Z15/39; N72/42), a pā on the high terrace immediately west of St Mary's Church at Tikitiki; and the pā complex, Z15/116-120, including Koputerehe, Papahikurangi and Kokeretaniwha, at Waiōmatatini. A group of unrecorded pā lies inland from Tūpāroa (Ngata n.d.).

The following descriptions are selected to illustrate the range of pre-European pā on the different landforms. Details are given of what is known of the nineteenth century pā named in the documentary record. The sizes of pre-European and nineteenth-century pā are compared and implications for settlement pattern are considered.

PĀ ON INTERMEDIATE TERRACE ALLUVIUM OR RIVER EDGE

As elsewhere on the East Coast (Jones 1988), the edges of terraces near the river are important in the settlement pattern. Pā are recorded on the north-west side of the Waiapu River at Whakawhitira (at the confluence of the Mangaōporo River) and from Rangitukia to Tikitiki (covering the valley floor some 3–7 km from the coast) (see Fig. 1), and on the south-east side at Waiōmatatini and further to the north-east around Tikapa. About 1 km north-east of Waiōmatatini, four pā, Z15/11–14 (N22/11–14), lie on stream-dissected shale (Ongley and Macpherson 1928), a harder substrate (compared with the prevailing mudstones of the area) resisting erosion by the river and providing stable ground right by the river edge. Just to the north on a remnant of high terrace, Whakaumu (Z15/55 [N72/58], on the Whakaumu Block) also has the natural defences of the river side. An internal bank and exterior ditch at the head of a gully separates the site from the main part of the alluvial terrace. On the north-eastern side of the valley, on a bend in the Waikaka Stream not far from Ōhinewaiapu marae, is a pā (Z15/89; N72/92), possibly Hatipe (see Colonial Museum and Laboratory 1867: map by Rice). A single massive ditch and bank cuts off a point of recent alluvium in the meander belt of the stream. It is the only example of such a pā in the Waiapu River catchment.

Some of the pā on the intermediate and high terraces are also discussed below, in the section on nineteenth century pā.

COASTAL PĀ

On the coast, in the Reporua/Tūpāroa vicinity, pā tend to lie on the highest hill ground available, as much as 300 m above sea level. Examples are Pukeatua (Z15/29; N72/32), on the Ngāwhakatutu Block, described as having many pits and no artificial defences (Leahy and Walsh 1979: Fig. 9), and the Otumaikuku complex, Z15/72 (N72/75), on the trig of the same name. The latter is described as an “old pa” in the Geological Survey Bulletin map for the district (Ongley and Macpherson 1928), although Leahy and Walsh (1979) record it simply as an isolated pit. These sites lie on relatively low, steep-sided ridges at the heads of broad north-facing basins of mild slope. They represent a common response to gardening — the selection of easily warmed soils in north-facing basins in the near-coastal environment where there is no high terrace or significant area of coastal strip.

Large pā, visible on the coastal aspect, were recorded by observers on the *Endeavour* in 1769. A “large town” was noted on the published chart of the coast near Whareponga (David *et al.* 1988: 191, figure 1.191; this may be south of the map coverage in Fig. 1). In 1826, sailing up the coast, Dumont D’Urville noted no settlement on the coastal country from north of Tūpāroa to about East Cape, a situation supported by the relative paucity of sites in the archaeological record. In this period, not long after the Ngā Puhi incursions and before vigorous trading with Europeans, most settlement appears to have been up the valleys. However, Dumont D’Urville noted, with romantic images, a large pā to the south of Tūpāroa (probably about Whareponga or Waipiro Bay).

The... country offers to the gaze of the navigator smiling woods, lovely valleys, and two or three *pas* of some considerable size. One of them, especially, situated about a league [3 nautical miles or nearly 6 km] from the sea, a white patch in the middle of a space

cleared of trees, with its regular lines of huts forming an amphitheatre, reminded me somewhat of the little towns in the Greek Archipelago. (Dumont D'Urville 1950: 126)

The presence of this pā apparently occupied in 1826 confirms William Leonard Williams's remarks about Pomare who, in 1825 (two years after Hongi), "treated all the people to the south of the East Cape as friends" (Williams 1890: 459–60). Sir Apirana Ngata's *Nga Rauru Nui a Toi* lectures (written during World War II) give a detailed account of the location of the pā on the coast between Tūpāroa and Whareponga. They are difficult to locate precisely on aerial photographs (apparently having few surface features) and have not been recorded. Named pā included Poutiriao, Tongānu, Ureparehaka, Ruawhākapapa, Haerearongo, Kokai and Tokatea (Ngata n.d.: lecture 4).

Pā Z15/128

This large pā lies on a major ridge line dividing the Makaraka and Mangawhio streams, about 3 km west from Tūpāroa on the coast. It may be the site referred to by Dumont D'Urville because, if it existed in 1826, it would have been visible from the sea as if it were an amphitheatre. It may also be one of the pā referred to by Ngata (see previous paragraph). The following description is based on oblique aerial photographs taken in February 1992 and vertical aerial photograph 2272A/11–12. A central platform is formed by a hump about 40 by 55 m in plan at the intersection of three main ridges (Figs 2, 3). There are five to seven pits on the platform and some possible house-floors on its west-facing slope at the head of a steep subordinate ridge. The ridge to the north is defended by double ditches carried well down (8 m) the slope on either side. A narrow ridge runs for some 100 m to the north with pits or huts on terraces on either side. This ridge terminates in two large (8 m long) house-floors on either side of the ridge. Beyond them is a transverse ditch and bank which is carried around to a steep defensive scarp and terrace on the west side. To the east of the central platform, a ridge drops down through a transverse ditch to an irregular line of pits for about 60 m. The ridge then broadens and drops down to the north-east (forming the amphitheatre) with lines of pits ranged regularly over three long (10–12 m) terraces. The total number of pits able to be detected on aerial photographs of this site is about 50 (not all are shown in Fig. 2) and there are at least five clear house-floors or open spaces.

Pā Z15/82 (N72/85)

This is a major hilltop pā lying on the 150 m contour above Tūpāroa Road, not far from Mangahānea marae. It is made up of many terraces and platforms on linked ridges rising to a central high point, and many raised-rim pits (for oblique aerial photograph, see Jones 1994: 148). The pits total 96 in number, some as large as 6 by 8 m in plan, and there are at least 15 sunken house-floors or terraced open spaces (oblique aerial photographs taken in February 1992; Leahy and Walsh 1979: Fig. 10). There also appear to be slightly sunken tracks between parts of the site. The artificial defences are not especially prominent. The site has a single narrow transverse ditch and bank carried well down the slope on either side of the narrow ridge leading in from the south. Otherwise the slopes leading to the ridge crests on which the pits and terraces occur are steep, and the numerous terrace scarps and structures or palisades on the terraces may have provided sufficient defensive strength.

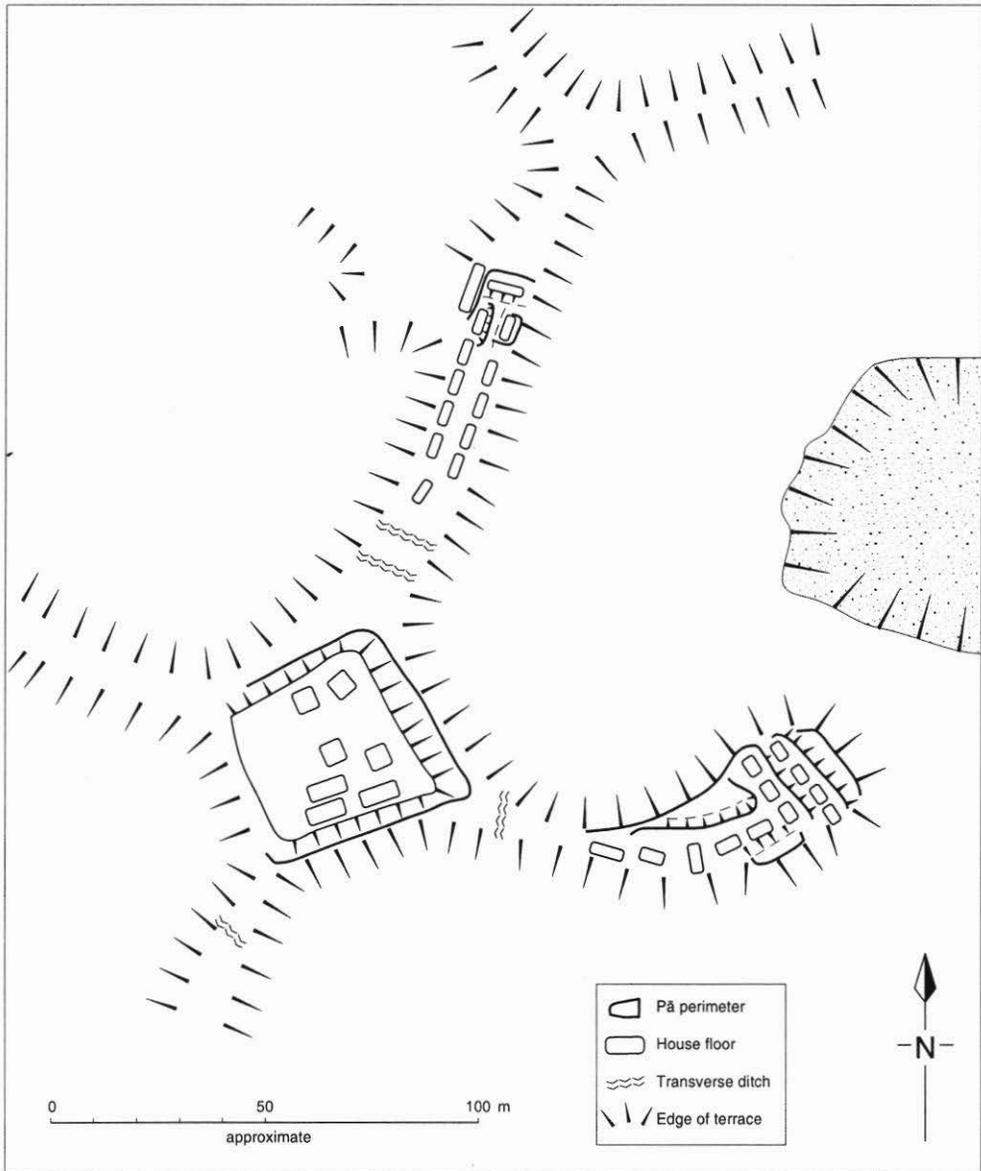


Figure 2: Plan of pā Z15/128.

This is possibly the locality of a particular pā, Manutahi, referred to by Taylor as being upstream from the Whakawhitira vicinity (Mead 1966: 14).

Pā Z15/88 (N72/91)

This pā lies at about 40 m above sea level on the end of a ridge just to the north of the Ōhinewaiapu marae, at the mouth of the Waiapu River. The features are worn by stock. The



Figure 3: Oblique aerial photograph of Z15/128 near Tūpāroa, viewed from the north-west. March 1993.

site is unusual on the East Coast because it has double transverse ditches and banks at either end of the platform (Fig. 4). These enclose an area about 75 m long and 12 m wide. There are several terraces and raised-rim pits both inside and outside the main defended area.

PĀ ON INLAND HILL COUNTRY AND ON THE HIGH TERRACE

These two broad classes of setting are merged here because some complexes of pā, at Waiōmatatini in particular, are on both the high terrace and the adjacent hill country. In the Tikitiki vicinity are two large site complexes: Pukemaire on the high terrace west of Tikitiki and a pā and associated pits on the peak Mangatūtaekuri about 1 km north of Tikitiki.

Mangatūtaekuri, Z15/110, Z15/92,93 (N72/95,96)

This pā complex lies on steep hill country at and near the trig of the same name about 1 km due north of Tikitiki. Leahy and Walsh (1979) recorded a line of pits about 110 m north-east of the trig but did not recognise the pā on the trig. The trig itself is a high point on an east-west trending series of cliffs extending over some 700 m. The ridge crest is rounded and divided into three humps. The highest has an enclosing defensive scarp against a single

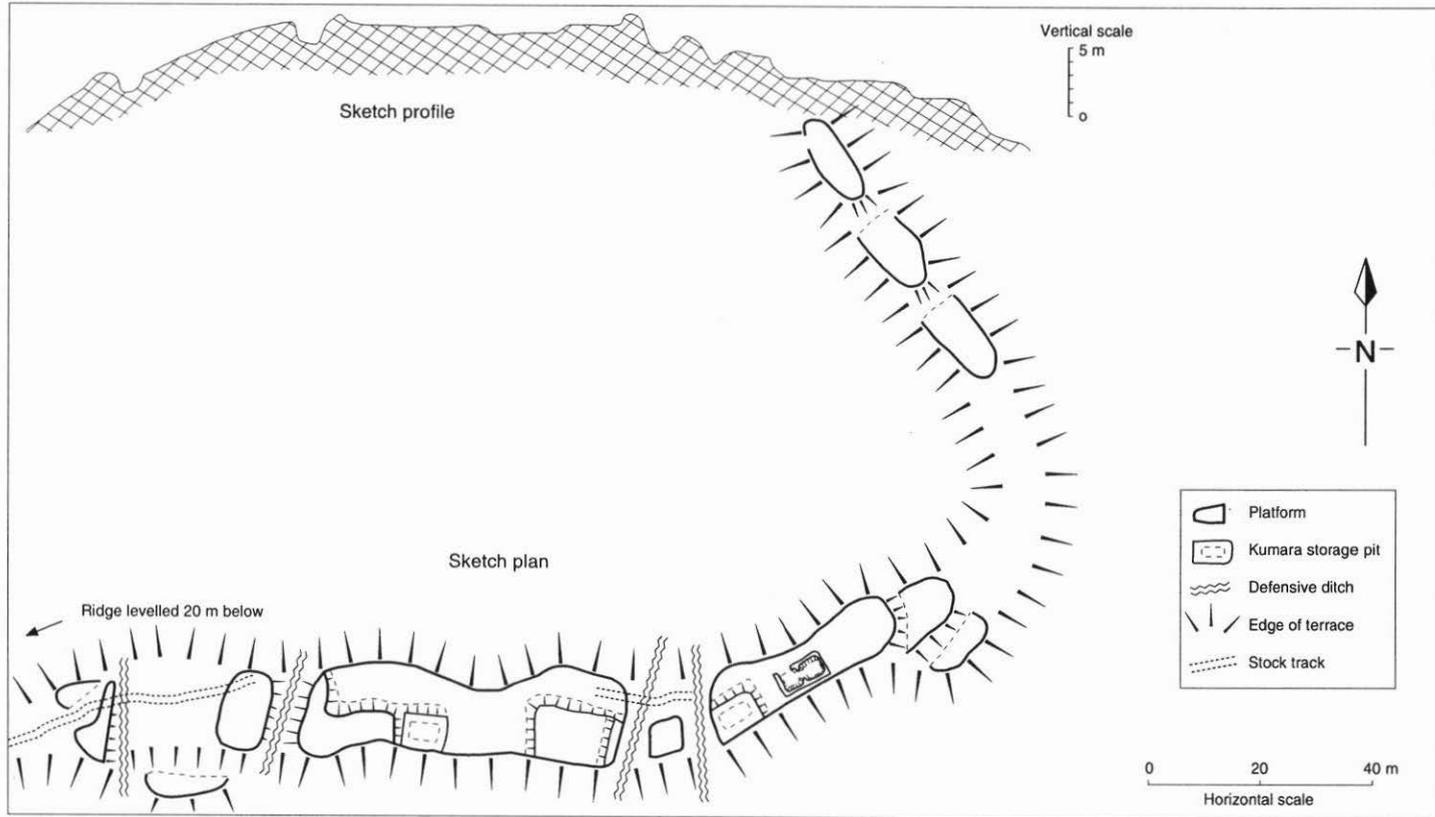


Figure 4: Plan of pā Z15/88.

cliffed face. On the adjacent humps are groups of pits, only the northernmost of which were recorded by Leahy and Walsh. To the south-east and north-east the pā has very steep natural defences. The platform itself is 105 m long by 21–26 m wide. The platform is defended from the south-west and north-west by a double defensive scarp. Terraces are present beyond the outer scarp. Few features show on the terrace surfaces (air photograph 127, H/35–36, 16.11.39; terrace surfaces also show clearly on R.N. 2266/19,20, 29.4.57). A further 110 m west of the trig is a smaller group of pits on a high point in the ridge.

Pukemaire, Z15/39 (N72/42)

This is one of the largest surviving pre-European pā in the Waiapu River valley (see oblique aerial photographs in Jones 1994: 36, 203). It was also in use in the nineteenth century. Today the defensive enclosure on the high terrace comprises an area more or less triangular in plan. The pā occupies an area some 350 m long and of variable width up to 140 m, narrowing to the northern point above Tikitiki. Simple transverse ditches and interior banks (the outer ones long ago ploughed) enclose three major segments. At the top of Figure 5 is the north-eastern tip of the site, above St Mary's Anglican Church, Tikitiki. This comprises a small pā or citadel (now an urupā [cemetery]), created by a transverse ditch and bank and enclosing an area 55 by 40 m (air photo S.N. 127, R.N. H35–36, 16.11.39). Just to the south, raised-rim pits survive on the inner defended area (which, it would appear, was not extensive enough to be ploughed). South of this again, in the ploughed area, the inner ditch and bank is 50 m long. The intermediate ditch is 125 m long. The third, outermost, transverse ditch and bank was 175 m long with a distinct bend apparently designed to link with the steep upper slopes of a gully to the northwest. Along the northern edge of the terrace and within the bounds of the third enclosure was a straight length of ditch some 175 m long (this is no longer visible). At its maximum extent, the total area enclosed was 44,000 m² (or 4.4 ha), with a defended perimeter of all three enclosures of some 850 m.

The documented historical associations of the pā are surprisingly few, given its large size and central and commanding position in the valley. This pā is probably the Pukemaire occupied by Pai Mārire in 1865. A number of references in the historical literature confirm the attribution of the name to this particular site. Cowan describes Pukemaire as being:

a rather formidable position: a trenched hill with two *pas* [i.e., any two of the defensive enclosures or the adjacent small ridge citadel at the north end] connected by a covered way... garrisoned by about four hundred Hauhaus. (Cowan 1983 (2): 121)

According to Cowan, Pukemaire was “three miles inland” from the coast, i.e., Port Awanui, the main nineteenth-century landing. Bagnall and Petersen (1948: 159–61) place Pukemaire 3 miles upriver from Rangitukia. Both descriptions converge on the Tikitiki location.

Pukemaire was the first of the Pai Mārire pā attacked in 1865 by Ngāti Porou kūpapa under Ropata Wahawaha. The attacking forces of Ngāti Porou retired across the river in the course of heavy rain to Waiōmatatini (about 2 km directly east of Tikitiki) (Cowan 1983 (2): 121), which again fits this locality well. The subsequent military actions swept north to Hicks Bay and then south to Tokomaru Bay and the Hikuwai River, culminating in the battle at Waerenga a Hika in late 1865.



Figure 5: Near-vertical oblique aerial photograph of the northern part of Pukemaire (Z15/39). North is to the top. February 1992.

Pukemaire was visited in 1923 by James McDonald, who took at least one photograph from the northern point, looking to the north-east and showing terraces and a number of

raised-rim pits (National Museum photograph B.010495, 1923). There is no mention of it by Best (1975; most of which was compiled in the decade prior to 1923).

The Waiōmatatini complex, Z15/116–121

On the hill country immediately south of Waiōmatatini marae, on which the house Porourangi lies, there is a complex of up to six major pā (Figs 6, 7). These pā were not recorded by Leahy and Walsh (1979).

At Waiōmatatini the river, running generally to the north-east, turns sharply to the north where it strikes a major ridgeline on the south of the valley, and then proceeds around a bend again to the north-east, forming a large area of recent, flood-free, alluvial soils on the bend itself. On these soils lie the Waiōmatatini settlement and marae. The upper pā lie on the ridge line. The lower pā lie on small remnants of a high-terrace (30 m above the modern alluvium) hard at the foot of the main ridge and dissected by streams.

On the hill spurs at Wai-o-Matatini the earthworks of four pa are seen, namely Kopu-te-rehe [Z15/116], Puputa [not identified], Papa-hikurangi [Z15/117] and Kokere-taniwha [Z15/118]....

The Kokere-taniwha pa extends up a spur and includes the top of the ridge. Some old pits for food storage seem to show that the kumara was cultivated here in those far off days, but no sign is visible of any rampart or trench, nought save a few much eroded and small escarpments.

The Papa-hikurangi pa occupies a smaller and lower spur near Kokere-taniwha, and does not extend up to the summit of the ridge, hence it was necessary to form a strong barrier at the upper end of the position... Advantage was taken of a dip or saddle in the spur, and this hollow was excavated so as to form a huge fosse. The upper side of this trench was formed with a long, easy slope so as to give an attacking force no point of vantage, but its down-spur side was carved into a steep, defensive scarp that is even now some sixteen feet in height, this after the erosion of centuries.... Hut sites and store pits are in evidence....

The Kopu-te-rehe pa near by is similar to Papa-hikurangi, and the huge trench at its upper end is of about the same depth. A small lateral gully has been scarped on the pa side, while the terraced areas for huts are larger and more pronounced than those of Kokere-taniwha. (Best 1975: 300–302)

Papahikurangi is named in the photograph in Best (1975: 302) (Museum of New Zealand, Negative B.010512) (Fig. 8). However, there are several others which Best does not mention, one of which may be Puputa. McDonald must have been up the ridge on one of the undocumented pā since the photograph of Papahikurangi is taken from there. Koputerehe is probably pā Z15/116; it has been covered in mānuka since 1939. Just uphill from it is a complex of raised-rim storage pits visible in S.N. 127 R.N. J/51 3.6.1939.

The upper pā lie further up the principal ridge to the south and east of Waiōmatatini marae. The sites are today under a thick cover of gorse and mānuka, and can be recorded only from aerial photographs. The following description relies on aerial photographs R.N. 2268/26, 27 29.4.1957 and S.N. 127 R.N. J/51 3.6.1939 (Figs 6, 7). The ridge has a



Figure 6: Detail of vertical aerial photograph (S.N. 127, R.N. J/52, 3.6.39) of the Waiōmatatini pā complex (Z15/116–121). Approximate scale 1:6000. (Photograph courtesy Land Information New Zealand.)

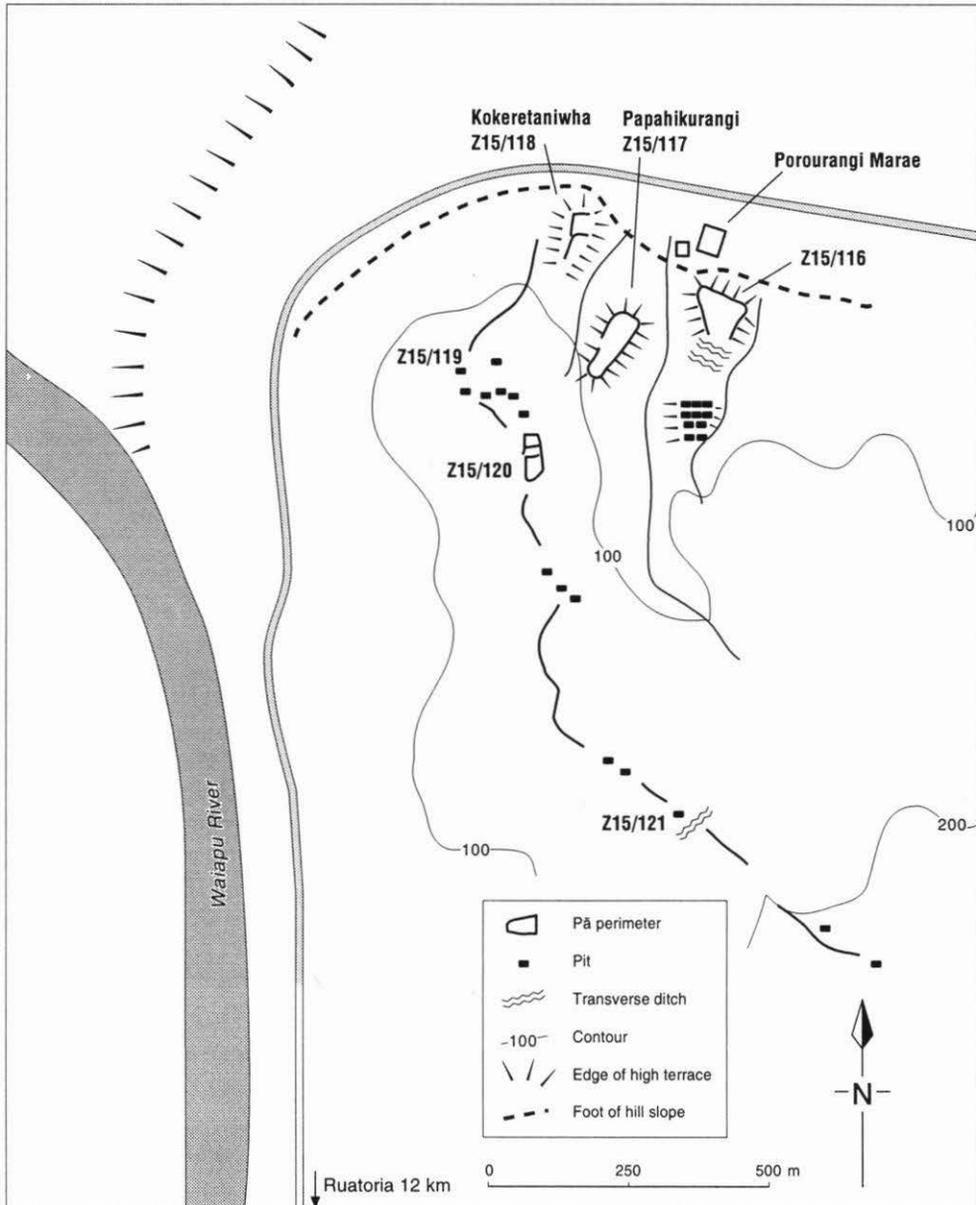


Figure 7: Plan of the Waiōmatatini pā complex based on stereo photo interpretation.



Figure 8: Detail of photograph of Papahikurangi (Z15/117) taken by James McDonald in 1923. (Photograph courtesy of Te Papa/Museum of New Zealand, Negative B.010512.)

complicated topography created by a series of slump lips running parallel to the ridge crest, especially in its lower part. There are sites over its full length, running in a broad arc south and then east of the pā, Kokeretaniwha, for some 1100 m to an altitude of 270 m above sea level. Kokeretaniwha (Z15/118) is about 65 m long by 15–25 m wide, occupying a small subsidiary spur about 20 m above the flood plain. To its south-west, the main spur ascends through a dip created by many slump lips to a section of ridge lying north-west/south-east, itself again marked by slump lips to the north-east and south-west. This section of ridge is

220 m long and it is curiously configured, but with clear defensive intent, into a pā (Z15/119,120). At its (south-eastern) crest the ridge drops away sharply to the south, while the main ridge line begins to ascend through a series of breaks. The central ridge line created by the slump lips lies in nine or more contiguous terraces with the slump scarps to either side providing naturally steep defences (some may have been further steepened by the defenders). Some of the crests of the slump lips may have been levelled to the west, providing living spaces, while the natural crests also have up to eight pits on them. A remarkable defensive feature exists on easier slopes to the north-west and south-west of the main defended area. Here the slopes are relatively slight at the beginning of a relief-break. To the north is a 40 m length of scarp and bank, and to the south is a similar 30 m length of scarp and bank.

Further up the ridge again from Z15/119, 120 are a few pits. Towards the highest point is a further pā, Z15/121. Relatively unmarked by slump features, it has no apparent transverse defences to the north, with only an intermediate short (less than 4 m) transverse ditch to the south. There are extensive, uneven, lateral terracing and scarps to the south with some pits, and the total length of the defended ridge crest is 230 m. Outside the single transverse ditch, on a broader part of the ridge to the south, is a group of four or five pits.

Pā Z15/109

This pā is on the edge of the flood-free terrace on the north bank of the main river about 2 km west of Rangitukia. The defences consist of partly ploughed out sections of ditch and bank enclosing an area east of the Motumako Stream and utilising the 4-m-high scarps of both the deeply incised stream bank and the main river scarp as part of the defences (Fig. 9). The ditches and banks occupy an area of about 40 by 60 m, which is possibly rectangular in plan, although the north-western corner has been ploughed out. The banks are about 1.5 m high and the exterior ditch has been ploughed out except for a section near the stream where the plough could not turn. The defensive enclosure actually lies on an island in the flood-free terrace of about 120 by 100 m in plan, formed by the stream and the main flood plain. To the north is the former course of the stream itself, although there does not appear to have been a defensive perimeter here.

NINETEENTH-CENTURY PĀ AND SETTLEMENT

The historical forces acting in this period — massive technological changes, new religious and political ideologies, issues of sovereignty, the rush for trading opportunities, guns, the introduction of new crops and draft animals, epidemics, and the nascent European settlements — all had consequences for Māori settlement. The most significant consequence from the point of view of settlement pattern was the depopulation resulting from the warfare of the 1820s and 1830s and introduced diseases in the 1840s.

The marked changes in settlement pattern that occurred in the 1820s and 1830s, as a result of intertribal warfare, appear to have resulted in much larger numbers of people occupying single pā. By the 1840s, settlements of very large size were being reported in quite specific terms. A number of pā as large as 8 ha in area and with as many as 400–600 people at one location were described in that period. Single settlements therefore comprised

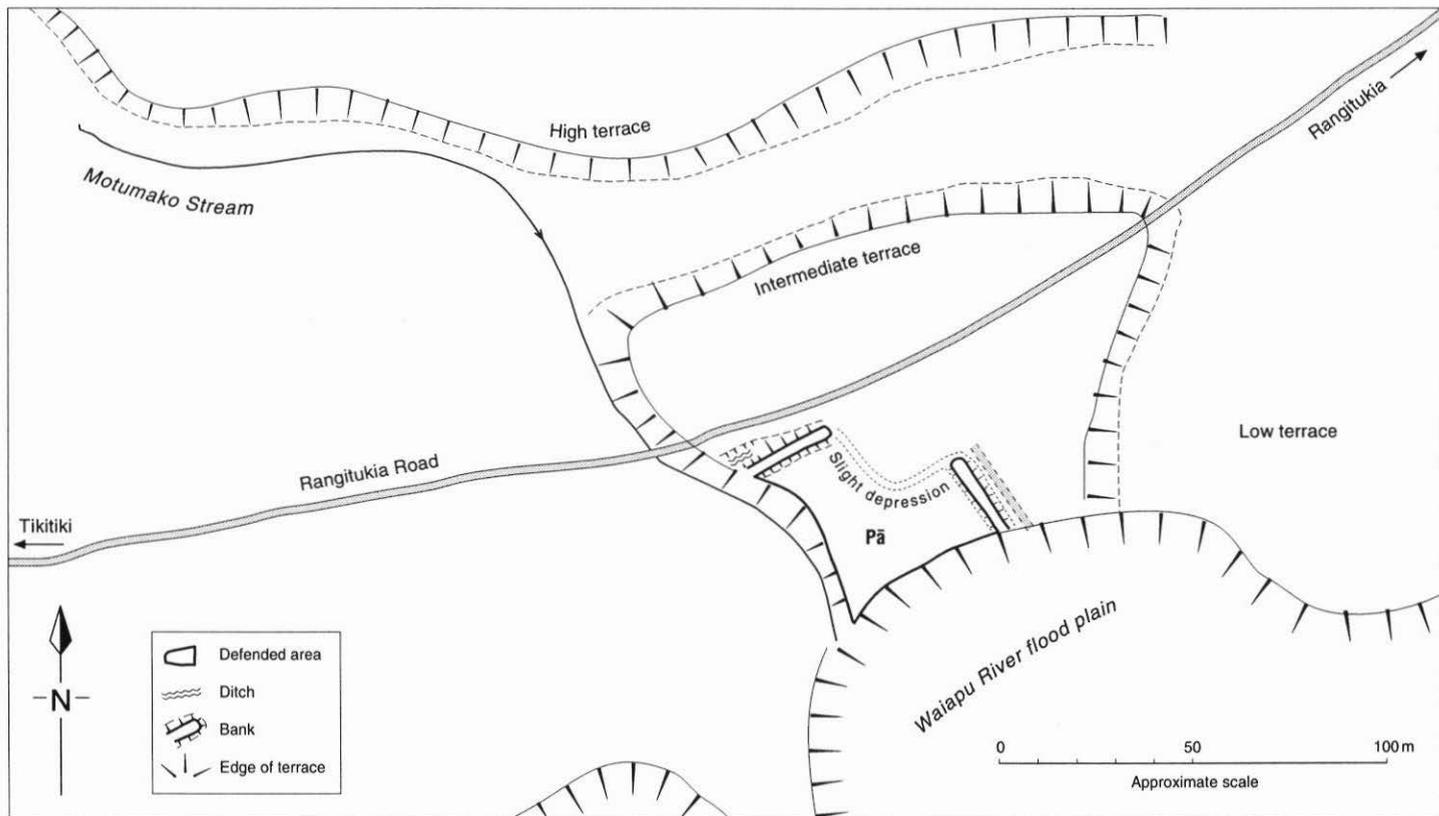


Figure 9: Plan of pā Z15/109 on river terrace near Rangitukia.

a population of many hapū. The reasons for this apparent increase in settlement size, compared with the pre-European period, are not clear.

The contrast with the pre-European period should not be exaggerated. There were very large pā (e.g., Z15/82) in the Waiapu valley. Large sites in hill country near Ruatoria such as Z15/82 are of probable late pre-European age. "Small towns" were noted by Dumont D'Urville in the 1820s and a "large town" is marked on one of the *Endeavour* voyage charts. It is this general size of settlement that is reported for the 1840s. However, the locations of large settlements may have changed — to places that had trade access and for defence. The accommodation of livestock such as pigs and horses in the 1840s may have led to settlements much divided within, into domestic yards with elaborate drains on their perimeters and a corresponding increase in area of settlements compared with their similarly populated pre-European counterparts. By the 1840s these pā on alluvium were the major centres of the settlement pattern and the surviving written records and sketches are reasonably complete.

The Waiapu River valley was visited by William Williams, William Colenso, James Stack (the elder) and Richard Matthews early in 1838 and again by William Williams, this time with Richard Taylor, in 1839 (Colenso journal 1838; Bagnall and Petersen 1948). James West Stack (b. 1835) lived on the Rangitukia mission station from 1842 to 1845 (Murray 1990). He offers a good general image of pā in the 1840s:

These towns, called *pas*, were protected by a strong wooden fence, fifteen or twenty feet high, erected around them.... The *pa* was enclosed by a small gate opening into a narrow lane, fenced on either side with sharp-pointed stakes which led across to a gate on the other side. If the *pa* was large, it was traversed in many directions by such lanes. Within the *pa* were many fenced enclosures, as every resident family occupied a separate one. In these stood the headman's dwelling...storehouses...and the dwellings of the family.... Pigs without and dogs within the enclosures — and strange smells everywhere. (Stack 1935: 81)

The precise locations of the pā described by the missionaries are not always obvious but it has been possible from a review of the aerial photographs to indicate where they may have been and to give some idea of their size and characteristics. The centres of population which survived the raids were apparently much larger and perhaps more densely settled within the confines of the pā. There were important settlements on the modern alluvial or older Pleistocene fans where major rivers joined the Waiapu: Tawera and Popoti, on the plains well inland above the confluence of the Waiapu and Tapuaeroa Rivers (known only from the map by Rice, Colonial Museum and Laboratory, 1867), Pukemaire, Whakawhitira and Rangitukia. The last two are well known from missionary accounts.

By 1865, settlements on the northern bank of the river were strongholds of Pai Mārire while Queenite or kūpapa forces and settlements were on the south (coastal) side of the river where they were more readily accessible to the coast and the colonial government reinforcements. The actions at Pukemaire, an older pre-European pā with a commanding military position in the valley, were discussed in an earlier section.



Figure 10: Oblique aerial photograph of Taitai peak from the north. The trig can be detected at top centre. March 1993.

Taitai, Y15/3,13,14 (N71/3,13,14)

William Leonard Williams noted that the Ngā Puhi raid on Waiapu in 1823 (the date may not be precise; S. Percy Smith gives 1818) under Hongi Hika was “most disastrous”.



Figure 11: Oblique aerial photograph of the refuge pā at Taitai (Y15/3; N71/3), comprising terraces below the trig, viewed from the west. March 1993.

Every pa that was attacked was taken with great slaughter, and the survivors, to the number of many hundreds, were carried off as slaves.... Numbers of the people hid themselves away in the mountain fastnesses until the much-dreaded invaders had departed. The southern most pa taken by the Ngāpuhi was only about five miles distant from Tokomaru.... Pomare [in a later raid] likewise came as far south as Tokomaru, but he treated all the people to the south of the East Cape as friends, and formed a matrimonial alliance with them.... (Williams 1890: 459–60).

Taitai is a good example of “the mountain fastnesses” referred to by Williams. It lies on a peak in a generally high ridge line dominating the hill country about 8 km inland from the confluence of the Matā and Tapuaeroa Rivers, well inland from the main areas of settlement. It is possibly of pre-European origin. The ridge line runs roughly north-south (across the line of the catchment boundary between the Matā and Tapuaeroa). This place was a refuge for people of the Waiapu valley in the course of the Ngā Puhi incursions of the 1820s. It is one of several such East Coast pā at high altitude (600–700 m above sea level) with commanding views down the valley and no storage pits. There are examples of similar pā at Wairoa (Tītirangi, W19/166) and Tolaga Bay (Ngāpopohia, Y17/143).

The site complex consists of two terraced, partly cliffed hilltops linked by a jagged ridge crest with occasional terraces on intervening knolls and stony outcrops (Fig. 10). The southern hilltop (Y15/3) is terraced over an area of some 50 by 60 m on its northern face (Fig. 11) — a total of 19 distinct terraces of variable size but typically about 8 by 4 m. The terraces all

provide usable defensive scarps and the balance of the potential defensive perimeter is cliffed or very steep. The northern hilltop (Y15/14) lies in an amphitheatre created by a curving ridge open to the south-east. The terraces, 23 in total, are scattered down the hill slope within the amphitheatre for some 30–40 m. They have 1- to 2-m-high rear scarps and are typically about 6 by 3 m in plan, although several are larger (20 by 3 m). The perimeter from the north-east through to north-west is defended by rock buttresses or steep slopes.

Whakawhitira

Sir Apirana Ngata described this pā as:

...one of the great encampments of the Ngati Porou tribe after the introduction of Christianity towards the confusion of the Maori Wars in the early part of the last century [i.e., the Ngā Puhī raids]. It is estimated that there were 3,000 fighting men in the camp. (Cited in Bagnall and Petersen 1948: 136)

This estimate of 3,000 fighting men in the 1830s (implying a total population of as many as 10,000 people) appears to be exaggerated, since Taylor (Mead 1966: 14) mentions 400 only present at services.

Writing in the 1880s, Colenso described the pā in its 1830s form as follows:

From Rangitukia we went further up the Waiapu Valley to Whakawhitira, a very large *pa*, the largest by far that I had ever seen. Its fence [stockades] was also threefold, the massy and combined outer one being twenty-five to thirty feet high; its main posts consisting of entire and straight trees denuded of their bark, with large carved full length human figures painted red on their tops; of these figures there were about a hundred. During our stay there we measured, by stepping, one of the sides of this *pa*, and found it to be more than a mile in length, and the huge carved figures we ascertained to be more than six feet high, with their heads fully and deeply tattooed; this we proved from one that had been broken off and fallen, and placed upright below its big post. I took a sketch of this *pa*, which I still have. (cited in Best 1975: 28)

Colenso's account in his journal is somewhat different but he offers no detailed measurements:

...walked through the pa — here are a great number of large, badly-carved, obscene figures, on the top of the parts composing the fence...100 in number, *this pa is very large, descended into the dry bed of the river and took a sketch.* (Colenso, Journal 18 January 1838, emphasis added.)

The sketch mentioned by Colenso was once held by the Hawke's Bay Cultural Trust. It is referred to in Bagnall and Petersen (1948: 96) but cannot now be traced. The emphasised section above suggests that the view might be similar to his view of Rangitukia, reproduced in Figure 12.

Taylor (Mead 1966: 14) also noted that the pā was a mile long. The description of the perimeter, one paced mile for one side, recorded by both Colenso and Taylor, is extraordinary. If a pā 1600 m long were to be 50 m wide (conservatively low) it would be 8 ha in area and



Figure 12: Detail of Colenso's view of the Rangitukia pā in 1838, probably from the south, showing the pā located on the edge of the high terrace. (Print courtesy of Hawkes Bay Cultural Trust MMC 232.)

much larger than any other recorded site such as Pukemaire (Z15/39). A pā of this size is however consistent with the descriptions of pā at Manūtūke in this same period.

The reference to the dry bed indicates a location on the high terrace *adjacent to the flood plain*. Colenso's journal also refers to a location "10 miles up the valley" from Rangitukia. Taylor (Mead 1966: 14) places the pā "8–10 miles" above "Waiapu" (probably Rangitukia). The higher figure places the site a mile or so upriver of Z15/113, perhaps upstream from the Mangaōporo River confluence, while the lower figure is about right for the location of Z15/113.

Today, Whakawhitira is a locality some 8 km up the valley from Tikitiki. No pā of the dimensions mentioned is to be sighted in the 1939 aerial photographs, although one example of a complete rectangular enclosure on the edge of the alluvial terrace (Z15/113) adjacent to the flood plain does occur there. From the size of the banks, it appears to be a pā rather than a rectangular ditch-and-bank fence enclosure. The area is surveyed as an urupā on plan ML 3688 (30.6.1931) but urupā have long been made within the earthworks of abandoned pā. This particular pā has an area of only 700 m², and a total defensive perimeter (including terrace edge) of 340 m. It cannot therefore be the pā specifically referred to by Colenso, but it may have been a part of it.

The edge of the flood-free terrace here is very long, some 3–4 km, extending down to the Paoaruku locality. It has an excellent, tactically valuable outlook down the river for most of its length. The Whakawhitira of the 1830s may therefore have been eroded away, or ploughed or buried under flood deposits. The recorded pā Z15/113 may well be a fragment of it, recreated in the 1860s or later as an urupā — much as was Waerenga a Hika (Jones 1994: 147). There are similar historical references to very large pā at Manūtūke and the Whakawhitira descriptions are by particularly reliable observers. It should be remembered that Colenso makes no reference to a ditch and bank, simply a palisade. Perhaps pā Z15/113 was only part of a complex — a citadel, perhaps, for a more extensive fenced settlement.

Rangitukia

This locality, the site of one of the modern settlements of the valley, is better known as the site of the Anglican Mission, established in 1840 by the Rev. William Williams and the earliest on the East Coast (Williams 1974; Stack 1935). Taylor, referring to the settlement simply as 'Waiapu', gives the number of 600 coming to service (this no doubt includes the surrounding areas) and rich cultivations of maize, taro, kūmara and gourds (Mead 1966: 14). The site of the actual mission buildings has not been recorded. Stack (1835), in his childhood memoirs, notes that his family's house was close by the Maraehara River. I would therefore be inclined to locate it somewhere on the high terrace edge between the modern settlement and school and the Maraehara River.

The pā was sketched by Colenso in January 1838 (Fig. 12), a companion piece to the now lost sketch of Whakawhitira. The view is probably from the south-west from a point in the high terrace, looking towards the edge of the high terrace and a point about 100 m west of the location of Hinepare marae and the modern school complex. The site of the pā extended west along the high terrace from the vicinity of the marae. It appears to have been rectangular in plan (with the long axis running parallel to the terrace edge). An oblique aerial photograph (Fig. 13) shows the outline as a relief mark in the appropriate position west of the school.



Figure 13: Oblique aerial photograph of Rangitukia from the southwest, showing a relief mark and dark grass mark of the ditch of a pā enclosing the terrace edge, middle left. Its position suggests that the pā was about 100 m west of the Hinepare (present day) marae and school. March 1993.

Kairomiromi

On the flat near Rangitukia was a pā, Kairomiromi, occupied by adherents of Pai Marire. It was "several miles up the Waiapu basin" (Cowan 1983 (2): 119) and is illustrated in Lambert (1925: facing p. 200). The view is from the northeast of the Maraehara River with the pā on the south bank at about grid reference Z15/910670. In the background is the church. The pā consisted of a "large square stockade, with two flanking bastions at diagonally opposite angles. The palisading was about 10 feet high, with loopholes near the ground and a firing-trench inside" (Cowan 1983 (2): 119). Nothing is to be seen in aerial photographs.

CONCLUSIONS

In the Waiapu River valley, pre-European settlement with a strong horticultural base extended over much of the coastal hill country to the south and east of the main valley, usually in sheltered north-facing basins with good ash-derived soils on the easier slopes. Three principal areas have many pā and were important for horticulture:

- the intermediate terraces of the middle and lower valley;
- the hill country of the lower reaches of the river;
- the hill country of the coastal strip.

Pā in hill country were of typical East Coast forms dictated by the topography of the hill. Artificial defensive features are sometimes lacking or confined to a single transverse uphill ditch and bank. These pā include the refuge pā, Taitai, possibly of pre-European origin but also occupied during the Ngā Puhi raids of the early to mid-1820s.

The distribution of pā and horticulture was limited on the north side of the valley, which was forested until the 1930s. The river appears always to have been poor for navigation. It has a steep gradient and no meanders; it carries much gravel and is much braided. The pattern of even distribution of sites either side of a river, which prevails in most areas in New Zealand, is not followed in the Waiapu. In the nineteenth century, the main port was at Port Awanui. Inland from that is an assemblage of major pā. There is also an assemblage of major pā at and inland from Tūpāroa. So, although a major river of great traditional and physical import defines the identity of this district, the settlement analysis suggests that the district is best seen as a series of corridors running in from the coast. From north to south, these corridors are: north side of the river mouth to Rangitukia; old Port Awanui vicinity to Waiōmatatini and Tikitiki; and from Tūpāroa inland to the vicinity of Ruātōria.

Nevertheless, there were large numbers of pā on the edges of the Pleistocene high terrace and on the edges of the smaller areas of flood-free, modern alluvial terraces. The main valley remained important because the edges and points of the high terraces provided good views down the valley, as did the points where ridges abut the modern alluvial terraces. Examples of the latter are at the confluence of the Mangaōporo River and at Waiōmatatini. The valley floor was sheltered by the forest immediately to the north and also gave ready access to the resources there.

Pā on the high and modern alluvial terraces have the characteristic form of a rectangular ditch and bank enclosing the scarp edge which falls to the river. Simple pre-European types

had small (less than 80 by 80 m in plan) rectangular, dog-leg or transverse ditches on the terrace edge or more frequently on points. These are common throughout the East Coast. On the alluvial terrace edges, pā were occasionally very large, especially in the early nineteenth century. Unlike Gisborne or Tolaga Bay, there are no meander belts on the main river. The only example of a pā on one is Z15/89 (N72/92) on the Waikaka, a tributary stream.

Further research in the Waipua valley and coast could follow a number of lines. There is a need for field records for the coast from Port Awanui to Tūpāroa and Whareponga. Over the whole valley, almost all the recorded sites need better maps and location details. Apart from improved chronology, there needs to be some excavation to enable detailed interpretation of different features and sites. At present the interpretation of site features such as pits is derived from excavations elsewhere in New Zealand. This cannot do justice to the apparent regional variation and detail on the East Coast, such as the frequency of raised-rim pits, and their pattern in relationship to house-floors, living areas and artificial defences. Detailed review and field investigation are needed to establish the location of the nineteenth century Whakawhitira and Rangitukia, including the mission settlement at the latter. The nineteenth century sites are going to be seen as particularly important because they can be studied using a combination of rich sources of historical records, archaeology, and whakapapa. Collaborations between archaeologists and iwi would be valuable. In terms of fishing research alone, detailed recording and analysis of reef systems and artificial constructions on reefs are needed to follow up and complement the ethnographic paper by Te Rangi Hiroa (1926) on netting of fish on the Waipua coast.

ACKNOWLEDGEMENTS

I thank Anne Leahy and Wendy Walsh for data gathered in the course of their 1979 survey and for helpful comments on the paper. For comments on the text I also thank Tony Walton, Tony Nightingale, Roberta McIntyre and the anonymous referees. My thanks to Bob Kaa for accompanying me in the field near Rangitukia. The figures were prepared by Jeremy Rolfe with the assistance of the New Zealand Lottery Grants Board.

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Received 6 July 2001

Accepted 23 January 2002